An Address
ON
THE MODERN TREATMENT OF FRACTURES OF THE CLAVICLE, WRIST, AND ANKLE; DISLOCATIONS OF THE SHOULDER, ELBOW, AND THE SEMILUNAR CARTILAGES OF THE KNEE-JOINT.

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MR. PRESIDENT AND GENTLEMEN,—The title of my address is of Dr. Mackintosh's choosing. If I may say so I think that his choice is a happy one, for, while the injuries included in it are among the commonest surgical affections that you are called upon to deal with, their proper treatment is still sufficiently far from being definitely decided that it is a good thing to review our knowledge by the light of the improvements that have recently been introduced into this region of surgery.

Until quite recently the general principles underlying the treatment of a fracture had undergone little change for centuries. Controversies certainly arose from time to time, but these were mainly about splints or other points of mere detail and not over general principles. Recently, however, it has become obvious that the old doctrine that absolute immobility is essential in a fractured limb until union is complete is no longer tenable. Formerly the surgeon's sole aim was to keep the fractured bone rigid, leaving the soft parts to take care of themselves; now his aim is to see that the soft parts are ready to resume their functions immediately union is complete, taking due precautions in the meantime to prevent undue disturbance of the fractured ends. This is a most important fundamental change in the treatment of fractures and I call special attention to it before speaking of the treatment of individual fractures because it applies to fractures and dislocations in general and not to any special form; it is no doubt more essential in some forms than in others, but in all it is necessary if the best results are to be obtained. The practical results of this change in treatment are very substantial. Stiffness, pain, adhesions, and swollen limbs are no longer looked upon as inevitable when the sufferer from a fracture first begins to use the affected limb and a patient thus afflicted is apt to cast up against his medical attendant the fact that friends similarly injured but treated on more modern lines have escaped these drawbacks. Even out-patients at the hospital not infrequently require to be told "whether the splints have not been kept on too long" whenever they do not get well as quickly as they think they should. There is no doubt that better results can be obtained in the majority of cases by using the more modern methods, chief among which may be mentioned the use of the x rays, the employment of general anæsthesia, and the free use of massage and passive movements from an early period.

The use of the x rays has greatly simplified diagnosis and it will be probably only a short time before the diagnosis of almost any fracture in the body will be made by their help as a routine matter. In all cases in which any doubt arises in the surgeon's mind it is incumbent upon him to use this method if the apparatus be available and blame will certainly fall upon him should it turn out that an error of diagnosis has been committed when the matter might have been cleared up thereby in the first instance. All who have to deal with fractures must know how difficult it is to diagnose the existence of a fracture into a joint in the first place, and, in the second place, to say precisely the nature of the particular lesion. It is here that the application of the x rays to surgery finds one of its most important uses; it localises and defines exactly the direction and extent of the fracture, it makes clear the displacement, and it may still further aid the surgeon during the actual process of setting the fracture. Whilst, however, one can say much in favour of this potent aid to diagnosis and treatment, it is necessary to say a word in disparagement. It has happened to me to be consulted by patients who are meditating an action for malpraxis against their medical adviser on the ground that he has set a fracture incompetently, basing their contention upon the uncouth appearance presented by the fractured ends in an x-ray photograph when really the result for all practical purposes was perfect. This, however, is a point upon which we may expect the public to become more enlightened shortly. Another point of some practical importance is that greenstick fractures in very young children cannot be traced as such by x-ray photography. My experience at the Children's Hospital shows that undoubted fractures may not show any sign of solution of continuity upon the fluorescent screen; nevertheless, callus is thrown out in the course of a few days in the usual way and unless splints have been applied to prevent displacement the characteristic deformity due to the fracture is seen. The explanation probably is that the bone fibres are so soft that they bend without suffering any solution of continuity.

A second respect in which treatment has improved much of recent years is the more extended use of general anæsthesia in the treatment both of fractures and of dislocations. With a few exceptions, such as fractures of the jaw and dislocations of the semilunar cartilages, an anæsthetic should always be employed in the treatment of fractures and dislocations at the present day. It quiets spasm, it stops pain, it allows full muscular relaxation and thereby facilitates accurate coaptation, while, more important still, it keeps the patient quiet until the splints have been applied. Even though the surgeon be single-handed it is well to use an anæsthetic; as soon as full anæsthesia is induced the administration can be stopped and the fracture or dislocation can then be reduced with ease before the patient comes round.

The most important improvement, however, that has been introduced into the treatment of fractures and dislocations in recent years is the use of massage and early passive movements. It used to be taught that movement of any kind delayed the union of a fracture, although a little consideration of the behaviour of a fracture of the ribs or the jaw in the human subject and the majority of fractures in animals is sufficient to disprove this view. The process by which this method reached its present status has been one of gradual development. When massage was introduced into general surgery it was found very valuable for the stiffness and œdema so often met with when a patient who had been the subject of a fracture began to get about. The combination of this massage with passive movement was so successful in the treatment of these ill-results of a fracture that they gradually began to be used earlier and earlier in order to obviate their occurrence, until in recent times they have been commenced in the very earliest stages—that is, from the receipt of the injury. French surgeons use this method largely to the exclusion of treatment by splints; in many of their cases splints are dispensed with altogether and massage and passive movements are relied upon entirely from the first. The best results will probably be obtained by combining the two methods and by keeping the seat of fracture immoveable by the use of splints, while the mobility of the soft parts is assured by the use of massage and passive movement from the very first.

The rationale of the method is quite clear upon a little consideration. In any fracture there are two distinct lesions produced besides the solution of continuity in the bone itself; on the one hand, there is a tearing of the muscular or tendinous structures in the vicinity of the fracture; on the other hand, there is extravasation of blood due to the injury of the vessels. Both these lesions require attention; the effused blood can best be limited and its absorption hastened by the use of massage, begun from the very beginning. Massage, however, is not sufficient for the treatment of the torn muscular or tendinous structures; the tendency of these structures to become adherent to the seat of fracture, to one another, or to their tendon sheaths must be counteracted by passive movement begun quite early—so early, that is to say, that adhesions are either non-existent or are quite supple and plastic. It may be taken for granted that the slight vibratory movements imparted to the seat of fracture by the performance of these passive movements are in no way detrimental to the union, and it must therefore be obvious

how much superior this method is likely to be to the older plan of prolonged immobility, not only of the fractured ends, but also of the soft parts and the joints in the vicinity. Another very important function, both of the massage and the passive movements, is to prevent the muscles wasting, so that the patient begins to get about, when union of the fracture is complete, with a much more vigorous limb than he would be likely to have otherwise. An obvious objection to this method is that it is not very easy to learn and that it generally requires to be carried out by the medical man himself, who can ill afford the necessary time it requires, or else by a skilled masseur whose fees are proportionately high. Granting this, however, much may be done by the medical man himself and the rest can be taught to any really intelligent person.

A regular routine should be adopted in all cases of fracture. In the first instance perfect coaptation should be made under an anæsthetic and some form of retentive apparatus applied in such a manner that it leaves the seat of fracture either exposed or else accessible without disturbing the fractured ends. The apparatus should fix the joint above and the joint below the fracture, but not those beyond, such as the fingers or the toes, as passive movement has to be begun in them at once. If there be no muscular spasm the limb may be left undisturbed until the following day. Smooth rubbing over the area of the fracture is very useful in allaying spasm and in promoting the patient's comfort and therefore, when spasm is present, the part should be gently rubbed after the fracture has been set and the limb fixed upon the splint. The rubbing should be done by grasping as much of the circumference of the limb as possible in the palm of the hand and rubbing it upwards as smoothly, gently, and evenly as possible. This rubbing is repeated on the following day for ten minutes or a quarter of an hour or so and again on the next day; if it be done quite gently and smoothly it soothes the patient in a remarkable manner. On the third day the rubbing is followed directly by that is to say, of the fingers in the case of a fracture of the passive movement of the smaller joints beyond the fracture—forearm or of the toes in a fracture of the leg. This combined massage and passive movement of the smaller joints is persisted in for the next two or three days, at the end of which another addition is made to the treatment—namely, the joint below the fracture is very cautiously moved. Passive movement of the joint above may be left with advantage to a somewhat later date. Thus the sequence of events is something like this: for the first two or three days simple rubbing over the area of the fracture alone; then from the third to the sixth or the seventh day massage is followed by passive movements of the toes or fingers, as the case may be, while to this are added from the end of the first week onwards movements of the wrist or ankle; lastly, the knee or the elbow may be moved after the end of the third week. The limb need not be disturbed in any way for the movements of the fingers or toes; when, however, the wrist or ankle has to be dealt with the limb must to some extent be taken down and allowed to rest flat upon the splint whilst one hand grasps the region of the fracture firmly and the other cautiously moves the joint. Grasping the region of the fracture in this way keeps the ends of the bones in proper position and no fear need be entertained of endangering the union in any way. When it comes to moving the knee the limb must be taken off the splint entirely and it is well in this case to support and to steady the fracture by some sort of moulded apparatus surrounding it.

At first the massage and passive movements should be practised only once a day and for a few minutes only at a time. They may be, however, gradually increased with advantage both in range and in duration until, finally, they occupy half an hour or more twice daily. In the third week the fracture will be sufficiently consolidated to be taken off the splint—surrounded at first by the moulded splint referred to above if the fracture be in the leg—and can then be turned first on one side and then on the other so as to allow all the muscles of the part to receive due attention from the masseur. After the end of the third week the union will be so far advanced that splints may be entirely dispensed with, or at the most a light casing may be applied in the neighbourhood of the fracture to support the parts, and this casing should be removed whenever the massage is applied. After a fracture treated in this manner the patient will be able to use the limb soon after the third week if it be in the upper extremity, whilst if it be in the lower extremity he will be able to walk about firmly and usefully as soon as consolidation has so far advanced as to allow the weight of the body to be supported upon it; this will be after the end of the fifth week.

In the case of dislocations also the present-day treatment shows considerable advance upon that in use a short time ago. The old plan was to immobilise the limb for a considerable time after reduction of the dislocation in order to allow the torn ligaments to unite and so to retain the joint surfaces in proper apposition. A little reflection will show that this view is not correct, since the real factor in keeping the joint surfaces in apposition is not so much the capsule, which after all is only a weak structure, but the muscles surrounding the joint. If the joint be kept immobile long enough for the rupture in the capsule and ligaments to unite so firmly as to prevent recurrence of the dislocation two serious troubles will ensue. In the first place there will be considerable adhesions in the joint, not only between the torn ends of the capsule and the articular ends but between the articular surfaces themselves. The other and more serious accident is the wasting of the muscles surrounding the joint entailed by the immobilisation. The muscles waste and become feeble through disuse and when the patient attempts to use the limb after the apparatus is taken off the muscles are powerless to ward off the various shocks that the joint must receive and the liability to recurrence of dislocation is greatly increased. If, however, instead of immobilising the limb early passive movement, massage, and even active movements be employed, nothing but good is likely to accrue. In the first place the muscles will not waste; in the second place adhesions will not form; whilst, finally, there is little liability to recurrence of the dislocation, at any rate so long as the patient does not attempt to move the joint in the particular direction in which the dislocation occurred. Everyone will realise the difficulties met with in a dislocation of the shoulder in an elderly subject treated by immobilisation. The treatment of this particular dislocation will be specially referred to later.

After these few preliminary words concerning the more modern treatment of fractures and dislocations in general I will try to describe as briefly as possible the appropriate treatment of various forms of fractures commonly met with.

FRACTURES OF THE CLAVICLE.

These common fractures, although usually satisfactory in their ultimate results, often give much trouble during the early days after the injury, and the method of treatment which is still in common use—viz., Sayre's method—does not meet these difficulties in the most satisfactory way. The plan which I have adopted and which I have found to be much more satisfactory is a combination of massage with the old method known as the "handkerchief" method. In this two handkerchiefs are folded around a roll of cotton-wool until they are about the thickness of a perineal strap and these are looped around each shoulder so that the handkerchief passes over the point of the shoulder and beneath the axilla. A firm pad about the size of the closed fist is fastened in the axilla on the affected side in order to lever out the head of the bone and the handkerchiefs are then knotted or sewn together in the middle line behind the shoulders after firm traction has been made upon them, care being taken to see that the handkerchief on the affected side does not pass over the region of the fracture. This is really a form of figure-of-eight bandage and pulls the shoulders well back in a very efficacious and simple manner. A large elbow sling is next put on and gentle, smooth massage is made over the seat of the fracture from the neck downwards to the point of the shoulder. The massage should last five or ten minutes in the first instance and should be repeated twice daily for the first few days. When the patient is erect no other apparatus is necessary; when he is recumbent it is well to pass another handkerchief transversely round the trunk to fix the affected arm lightly to the side. It will be found that this method causes very little pain and spasm; the rubbing relieves the spasm almost directly and the forcible pulling back of the shoulders prevents the irritation caused by the fractured ends pressing backwards upon the structures of the neck. In three or four days' time the patient may dispense with the sling at times and should be encouraged to practise underhand movements, the forearm being put back in the sling from time to time. The massage is used for a week or ten days, gradually increasing in

frequency and duration, and at the end of that time the patient can generally dispense with all restraining apparatus, except possibly a wrist sling in which he rests the forearm for a short period. Overhand movements should be attempted at the end of a fortnight and gradually increased in range and direction.

COLLES'S FRACTURE.

This, which is one of the commonest fractures met with in practice, is also one that gives rise to more anxiety than many others. The trouble may sometimes arise in setting the fracture but in the majority of cases the important point is the disability which the patient suffers afterwards from the stiffness about the wrist and the fingers and it is in this particular fracture that the modern plan of passive movement and massage produces its most brilliant results. As an example I may quote two cases that came before me only to-day in the out-patient room. The first patient, a burly mechanic, came to ask if his wrist had been broken, as he had been told that it had been. He had fallen on the outstretched palm eight weeks before he presented himself. Examination showed the typical deformity of a bad Colles's fracture and an x-ray photograph showed a fracture in the usual situation extending into the wrist-joint. The patient had the most perfect movement both in his fingers and in the wrist-joint and he declared that he had never had any medical treatment at all and that all he had done himself was to work his wrist about and to rub it; he said that he was unable to afford the time to lie up and had to go on with his work which he had done from the time of the injury uninterruptedly. He said that he had a good deal of pain on the first day but that subsided readily when he rubbed it and from the time of the accident to the time that he presented himself at the out-patient department he had never worn any apparatus of any kind, not even a sling. The other patient complained of stiffness of the fingers; he also had sustained a Colles's fracture which had been treated immediately and had been excellently reduced, but the splints applied had extended to the tips of the fingers and had been kept on for six weeks. The result was that there were adhesions in all the tendon sheaths and apparently extensive adhesions in the wrist-joint itself. The first case I have mentioned emphasises the point that is being more recognised every day—viz., that the disability after a Colles's fracture depends not upon irregularity of the fractured surfaces or upon bad coaptation so much as upon adhesions in and around the wrist-joint—mainly in the tendon sheaths surrounding the joint—and the same case shows how, in spite of very marked deformity, the use of the hand and the wrist can be perfectly preserved by the painstaking application of massage and passive movement

A safe way of treating this form of fracture is to set the bone as accurately as possible after having reduced any impaction present, preferably under an anæsthetic. An anæsthetic is not absolutely necessary in these cases but is always advisable, as, owing to the proximity of the wrist-joint, perfect coaptation is important. After reduction has once been properly effected there is little tendency for the recurrence of the displacement, as the fractured surfaces are quite broad and not easily displaced from one another. As to splints, the form in common use known as Carr's is perhaps the most comfortable, but straight anterior and posterior splints do equally well provided that the former does not reach lower down than the transverse crease of the palm. Massage over the seat of the fracture applied to the dorsal aspect of the limb should be used from the time the limb is secured on the splint and at the same time active and passive movements of the fingers should be practised. The back splint must, of course, be removed to allow of the massage. Before the end of the first week passive movements should be made in the wrist; at first the joint is merely extended as it lies on the splint, while the seat of the fracture is steadied by the other hand, but by the seventh day the limb may be taken right off the splint, the seat of fracture grasped in one hand, and passive movements of the wrist made with the other. Some time during the third week it will be possible to leave off the splint altogether, the arm being carried in a sling and perhaps being supported by a good, firm leather wristlet. Active movements of the wrist joint should be encouraged from the end of the first week.

POTT'S FRACTURE.

Pott's fracture shares with Colles's fracture the distinction of being a perpetual source of anxiety to the surgeon as to the restoration of function of the limb after the fracture has consolidated. Like Colles's fracture it is pre-eminently suited for treatment by massage and early passive movement, and in it, as in Colles's fracture, the use of a splint may be reduced to a minimum. The first point in the treatment of a Pott's fracture is to reduce the outward and backward displacement of the foot, which may be very marked. Manipulation usually suffices to correct the displacement if the knee and thigh be fully flexed during the process; this relaxes the tendo Achillis and allows the astragalus to slip into place in the tibio-fibular arch. Should there be the least difficulty in reducing the displacement an anæsthetic should be resorted to. Occasionally reduction of the dislocation may be prevented by the interposition of some structure, such as the tibialis posticus tendon, between the two bones and then nothing will avail but an open operation by which the obstruction may be hooked out of the way. This, however, does not concern us here. Should it be deemed inadvisable to administer an anæsthetic or should the patient refuse to take one, the spasm that is opposing reduction may sometimes be sufficiently allayed by gentle massage from the heel upwards to the knee for five or ten minutes to allow reduction to be effected.

When the astragalus has been got back into position it should be kept there by some suitable form of apparatus. This is all that the apparatus need aim at doing, for the fracture of the fibula and the internal malleolus that will probably be present also are of secondary importance. Perhaps the best plan is to put the limb upon an external lateral splint with a foot-piece at right angles and to let it lie upon its outer side with the knee flexed; this has the advantage of leaving a great portion of the limb exposed so that rubbing and passive movement can easily be performed with a minimum of disarrangement of splints. A simple back splint with a foot-piece at right angles is not a useful form of apparatus as the displacement is primarily lateral and not posterior; two lateral splints will do perfectly well. Massage is begun from the first and passive movement of the toes from the second day. It is of primary importance in these cases to prevent stiffness in the ankle or pointing of the toes and hence passive movements of the ankle should be begun within three or four days of the receipt of the accident. If care be taken to prevent lateral displacement of the foot by grasping the ankle firmly in one hand, the other may be inserted beneath the heads of the metatarsal bones and made to raise the front portion of the foot. These passive movements of the toes and ankle should be persisted in for 10 to 14 days when the patient may discard his splint or at most may wear a light poroplastic or milliboard splint moulded to the outer aspect of the limb. From this time onward the range and direction of the passive movements are increased and active movements are also practised, until at the end of four weeks the patient will be able to walk quite well, bearing all his weight upon the limb. In this case it will be unnecessary to devote any attention to the knee-joint.

The old plan of treating Pott's fracture was to put the limb up in a plaster-of-Paris casing which was worn for from four to six weeks or even longer. The result was that adhesions made their presence manifest in the ankle-joint immediately the patient began to get about and lameness resulted. Besides this, the condition of the muscles of the leg was bad, œdema and discolouration of the extremity followed, and the time that elapsed before the patient regained perfect use of his limb—if, indeed, he ever did so—was as long as, if not longer than, the period for which the limb had been confined for the healing of the fracture. It may be said that with proper treatment a patient suffering from an ordinary uncomplicated Pott's fracture should be able to walk without pain immediately the fracture is sufficiently consolidated to bear his weight.

DISLOCATIONS OF THE HUMERUS.

The chief obstacle to reduction in any form of dislocation of the shoulder is muscular contraction which keeps the head of the bone out of place, therefore the first thing to be done is to overcome this. The best method of doing so without unnecessary damage to the soft parts or further laceration of the torn capsule is to administer an anæsthetic. The spasm is at once controlled and the dislocation will become reduced either spontaneously or after very little manipulation. The surgeon will generally find that if he administers an anæsthetic soon after the occurrence of the

dislocation reduction has spontaneously taken place by the time the patient is fully under its influence. It is quite safe to give an anæsthetic and to reduce the dislocation single-handed, since directly the patient gets under to the surgical degree reduction can be effected in a few seconds by simple manipulation.

The important point, however, is the after-treatment. It used to be the custom to immobilise the joint for a long time in order to obtain union of the torn capsule. Experience shows that this is quite unnecessary and that union of the capsule will occur in spite of even active movements. The most important danger to be guarded against is the wasting of the muscles surrounding the joint, as this greatly increases the tendency to recurrence of the dislocation when the patient begins to use the limb again. The best plan is to employ careful smooth rubbing of the muscles about the articulation immediately after reduction, while the elbow is put into a sling and the affected arm is fastened lightly to the thorax by a suitable belt or bandage in order to prevent the patient from abducting the limb. Underhand passive movements may be practised from the second or third day and the patient should be urged to perform them for himself also. The only movement that must be guarded against is that in which the dislocation occurred—viz., abduction of the limb—and the patient must be warned against doing this for at least a fortnight after the accident. The reason for this is that if abduction be made, the weakened deltoid fails to oppose the adductor muscles which will therefore draw the head of the bone inwards towards the chest and out through the existing rent in the capsule. If this treatment be vigorously carried out the patient will be able to use the arm well in two or three weeks without any fear of the displacement recurring, a decided contrast to the feeble, useless joints so often seen after a dislocation of the shoulder treated by prolonged immobilisation, and a very marked contrast indeed to those distressingly frequent cases in elderly subjects where reduction is followed by severe adhesions and almost complete immobility of the joint.

DISLOCATIONS OF THE ELBOW.

There is little to say about dislocations of the elbow; perhaps the most important point is their correct recognition. It is not uncommon to find a dislocation either entirely overlooked or only partially reduced or confounded with a fracture. In all these cases an x-ray photograph will show the true nature of the affection at once and it is in injuries about the elbow joint that this aid to diagnosis finds perhaps its most useful expression. The dislocation should be always reduced under an anæsthetic; the old plan of forcibly flexing the joint around the knee is, although generally effectual, clumsy and painful and may give rise to lacerations of the joint structures which are better avoided. If an anæsthetic be administered, however, reduction can be effected with a minimum of trouble and damage directly the patient is under its influence.

The after-treatment presents few points of importance, the nature of the articulation being such that there is little tendency for a recurrence of the displacement. It will be sufficient to put the forearm in a sling and to practise gentle massage, followed after the second or third day by passive movements in the direction of flexion and extension, pronation and supination. Flexion and extension should not be carried too far for the first week, as otherwise the dislocation may recur, especially during forced flexion. The patient should be able to use the limb perfectly in about a fortnight after the occurrence of the injury.

DISLOCATIONS OF THE SEMILUNAR CARTILAGES OF THE KNEE-JOINT.

Although this designation is applied to a large class of cases met with in practice it is well to remember that the true cause of the mischief is not necessarily due to a displacement of a semilunar cartilage at all. Symptoms quite identical may follow nipping of the synovial membrane between the articular ends of the bones either in the subjects of chronic synovitis or even in those whose synovial membrane is apparently perfectly healthy. The semilunar cartilage may be detached from the tibia either along its convex border or at one end, or in other cases again it may be split transversely or longitudinally. Time does not allow me to go into the exact cause of the mischief but it may be roughly said that as a rule the lesion is produced by some violent rotary movement of the femur upon the tibia, the result of which is to displace the semilunar cartilage, which at the same time is considerably bruised. The symptoms are exactly similar, both in kind and often in degree, whether the cartilage be misplaced or merely bruised; there is the acute sickening pain when the structure is nipped between the bone ends, the sudden giving way of the limb, so that the patient often falls to the ground, and, as a rule, there is the characteristic "locking" of the joint in the position of semi-flexion. This phenomenon may not always be present, but it is worth while remembering that it may be met with in the bruising of the synovial membrane as well as displacements of the semilunar cartilage. After the patient has straightened the limb or has had it straightened for him an interval elapses, at the end of which acute synovitis with effusion takes place; this lasts for a certain length of time when it gradually clears up and the patient is able to get about, sometimes with an apparently sound knee and at others with a tender or aching spot. As a rule the accident is repeated after a short time; it may have all its former intensity, it may even be worse, while in some cases it may never recur at all. Each succeeding attack leaves the capsule of the joint weaker and weaker and also leads to increasing atrophy of the thigh muscles owing to the prolonged and repeated immobilisations of the joint necessitated by the recurrent attacks of synovitis. Finally, the patient becomes disgusted with this semi-invalid condition and the knee-joint is opened and the semilunar cartilage or the enlarged synovial fringes are removed.

The treatment of dislocation of the semilunar cartilage has been developed considerably in recent years and, although the more purely surgical treatment—viz., the excision of the semilunar cartilage—has *pari passu* been brought to a high pitch of perfection, nevertheless it is probable that in the near future we shall see these operations less often done than is the case at present and more cases permanently cured by less radical measures. The most important point, if the surgeon sees the case at the very outset, is to replace the cartilage should this have been dislocated. This is done by still further flexing the already semi-flexed knee, placing one finger or thumb firmly over the region of the protruding cartilage, pressing the latter back, and at the same time vigorously extending the knee. This usually allows the cartilage to slip in with a distinct snap when the knee is easily extended and can be moved fairly easily. It is important to remember that this cannot always be done, especially when the damaged structure is a fringe of synovial membrane and not a displaced semilunar cartilage. It will then happen that the attempts at reduction fail and the knee remains semi-flexed with a tender swelling between the bone ends. In these circumstances the best plan is to give an anæsthetic and gently to attempt reduction; it may, however, turn out that complete extension of the limb is impossible even under full anæsthesia and, if this be the case, it is very important not to persist, as reduction is probably mechanically impossible and the swelling that prevents the limb from being fully extended is a bruised synovial membrane into which there is effusion of blood. The limb will come straight as the swelling subsides.

The next point in the treatment is to subdue the acute synovitis that is practically certain to follow the injury to the joint. Some surgeons are in the habit of sending the patient to a gymnasium at once and of moving the limb vigorously, even during the period of acute synovial inflammation. This is, I think, wrong, and a short period should be devoted first to the treatment of the effusion into the joint. The limb should lie comfortably on a back splint and some evaporating lotion—such as spirit, lead, or lead and opium lotion—should be applied; at the same time massage of the thigh and leg muscles is practised without raising the limb from the splint. This should be done at once and persisted with until the swelling has subsided, which will probably be in the course of a week; no passive movement, however, should be adopted during this period. The massage is a most valuable auxiliary to the rest and evaporating lotions; it is primarily designed to prevent wasting of the leg and thigh muscles which is so rapid and so constant a phenomenon after the immobilisation of the joint for this injury. It also promotes absorption of the synovial effusion and it stimulates the circulation in the part, but its principal function is to prevent muscle waste and to maintain the tone of the muscles and thereby to facilitate the return of the capsule to its normal size as the effusion subsides. This important point was overlooked a few years ago when these

cases were treated by prolonged immobilisation and the result was that the muscles wasted to an extreme degree, so that when the patient got about again he always had a feeling of insecurity in the joint and the ligaments and capsule were so feeble that the accident recurred on slight provocation.

Active and passive movement should be begun when the effusion has become absorbed—generally after the end of the first week—and must be persisted in for a long time. The movement should be entirely confined to flexion and extension; it is very important that no rotation of the tibia upon the femur should be allowed. The passive movements should be preceded by massage. The patient may walk about with the limb restrained by an elastic knee-cap or a bandage which will serve to remind him that the joint is unsound and he may practise gymnastic exercises in the form of flexion and extension; these should mainly take the form of pedal exercises which strengthen the muscles of the thigh and leg. Massage should also be practised daily for half an hour or more at a time and this treatment should be continued until the capsule has once more become normal and there is no wasting of the thigh muscles; it is never safe to leave it off until then.

In cases treated on these lines good results will be obtained in a large number that are seen from the first and in many no second attack will ever occur. If the original injury was a partial displacement of the semilunar cartilage this structure may become fixed in place again and recurrence of the accident is then guarded against by strengthening the muscles of the articulation. If, on the other hand, the case is one of bruised synovial fringes, the rest and massage will lead to the disappearance of the enlargement and a cure will result.

Cases are not infrequently met with in which either the above treatment does not succeed in preventing subsequent trouble or in which the patient only comes under notice after the condition is well established and there have been several previous attacks. In these circumstances the question if anything short of operative treatment can be done will have to be decided and the applicability of apparatus must arise. It may be said here at once that no form of apparatus is any real good. The various forms of knee trusses are of no value whatever; the pad that is supposed to press back the semilunar cartilage is quite useless, for the cartilage as a rule is not in any need of being pressed back, seeing that it is separated from the head of the tibia and probably lies loose somewhere between the articular ends. The only form of apparatus of any use whatever is one designed to prevent lateral bending of the knee, which is in itself a potent factor in allowing displacement of the cartilage, but apparatus of this kind should only be used when, for instance, the patient refuses operation or when it is considered inadvisable to perform one.

Concerning the operative treatment I need say little and concerning the actual steps of the operation I shall say less. The operation consists in opening the joint freely and in removing as much of the displaced cartilage as can be got at. It has been recommended to suture a displaced cartilage back into place, but it is probably better to abandon this method in favour of the simpler and more radical method of removing the offending structure. The patient gets on exceedingly well without the semilunar cartilage and its removal does not affect him injuriously in any way, while if it be the real cause of the symptoms its removal prevents any chance of recurrence. A point of great practical importance, however, and one that is not sufficiently recognised is that it may be necessary to do more than remove the cartilage. In cases that have lasted a long time and have been the subject of several attacks of synovitis the synovial membrane becomes so hypertrophied that large fringes hang into the joint cavity, especially in the region of the ligamentum mucosum and the ligamenta alaria and get nipped between the bone ends, so that the symptoms may be reproduced even after complete removal of the cartilage. Before proceeding to close the wound, therefore, after the cartilage has been removed, careful search must be made for these fringes, especially behind the ligamentum patellæ, and any that are found should be snipped off. The operation in skilled hands is safe and successful, but it must never be forgotten that it is not enough merely to open the joint and to remove the cartilage or the synovial fringes and then to consider the patient cured. Most of these cases are only submitted to operation after repeated attacks of synovitis and the capsule of the joint is in a very relaxed condition and the muscles are greatly wasted through the continual attacks of inflammation and its consequent immobilisation. The patient will therefore require to be put through a regular course of massage and exercises after the operation in order that the tone of the capsule may be restored by improving the condition of the muscles surrounding the joint. The treatment, indeed, will closely approximate to that already sketched out for a case of displacement of the semilunar cartilage seen immediately after the receipt of the injury. It is very rare to get recurrence of the symptoms after the operation. In the few cases in which they are known to have occurred the explanation has generally been that enlarged synovial fringes have been left behind. In some cases the real origin of the mischief has been an osteo-arthritis which has progressed in spite of the operation.

REMARKS ON 50 CONSECUTIVE CASES OF PERFORATED GASTRIC AND DUODENAL ULCER TREATED BY LAPAROTOMY.[1]

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THE fiftieth operation at St. George's Hospital for perforation of a gastric or duodenal ulcer was performed in June of this year. Having had the opportunity of observing and taking notes of the majority of these cases during the last six years I thought that it would be interesting to review the cases as a whole, especially in regard to certain points, such as the question of premonitory symptoms, the incidence of complications, and the after-results. For permission to use the cases I am greatly indebted to the physicians and surgeons under whose care they came. Few subjects have attracted more attention during the past few years than the condition of perforated gastric or duodenal ulcer and the number of recorded cases is now very large. In a condition of this kind, the operative treatment of which is comparatively new, it is important that cases should be reported systematically and it is unfortunate that more use cannot be made of the vast amount of material available in the wards of the large general hospitals. Cases of the greatest interest are relegated to the hospital "Reports," if such are published, or more often remain in the hospital case-books and are buried in oblivion. The value of hospital statistics, faithfully recorded, is obvious. A long series of consecutive cases, which includes the failures as well as the successes, the unfortunate cases as well as the surgical triumphs, cannot fail to give more accurate information than a collection of cases from the medical journals. It is notorious that the ways of human nature are such that the cases which find their way into the medical press are conspicuous by the absence of the correct proportion of failures. A series such as the present one possesses further value in that it represents the practices of many surgeons and the results of widely different methods.

In this paper, which I have the honour to read before you to-night, acute perforations of duodenal ulcers have been grouped with those of gastric ulcers, as the general aspect of the cases is very similar; on the other hand, an entirely different clinical picture results with subacute or chronic perforation and no cases of this nature are included in the series. Three cases have been admitted into hospital in which no operation was performed owing to the condition of the patient being too desperate for surgical interference; and in two instances patients were brought in dead, death having speedily occurred during the initial shock. In these latter cases the rent in the stomach wall was large and the peritoneal cavity was flooded with material from the stomach. In these 50 consecutive cases the stomach was the seat of perforation in 42 cases and the duodenum in eight cases. In the cases of perforated gastric ulcers 33 occurred in females, the average age being 26·4 years, and nine in males, with

[1] A paper read before the Royal Medical and Chirurgical Society on Nov. 24th, 1903.

an average age of 37·3 years; 22, or 52 per cent., of these patients recovered. In the duodenal perforations two occurred in females, the ages being 22 years and 27 years respectively; and six occurred in males, the average age being 34·6 years; two only of the eight cases recovered. The total recoveries are therefore 48 per cent. These results are

TABLE I.—*50 Consecutive Cases of Perforated Gastric and Duodenal Ulcer at St. George's Hospital.*

Year.	Gastric ulcer.		Duodenal ulcer.	
	Cases.	Recovered.	Cases.	Recovered.
1892	1	0	—	—
1893	1	0	—	—
1894	3	1	2	0
1895	3	1	—	—
1896	3	2	1	0
1897	5	3	—	—
1898	6	1	2	1
1899	3	2	—	—
1900	4	2	—	—
1901	2	1	1	1
1902	4	3	2	0
1903	7	6	—	—
Total	42	22	8	2

RECOVERIES.

Gastric ulcer ... 52 per cent.
Duodenal ulcer ... 25 „ „

AGE AND SEX.

Perforated Gastric Ulcer.

Males ... 9 cases; average age, 37·3 years.
Females ... 33 „ „ „ 26·4 „

Perforated Duodenal Ulcer.

Males ... 6 cases; average age, 34·6 years.
Females ... 2 „ „ „ 24·5 „

very encouraging, more especially as it is found that the mortality is steadily diminishing. Three out of the first ten cases recovered, whilst of the seven cases admitted during the present year six have recovered. This improvement is doubtless due to the earlier recognition of the condition, to earlier operations, and to the greater care expended in the cleansing of the peritoneal cavity.

The first operation of this nature at St. George's Hospital was performed in December, 1892, although several cases of subphrenic abscess had been surgically treated before this date. The case presents several points of interest. The patient was a woman, aged 26 years, and the abdomen was opened 14 hours after the onset of symptoms. A perforation of the stomach was found in the centre of an area of dense induration three inches in diameter. Invagination of the perforation was impossible and excision was equally out of the question; the abdomen was therefore irrigated and the perforation was attached to the upper part of the wound, a drainage-tube being inserted. Bilateral parotitis developed during the first week after operation and suppuration occurred in both glands. Pulmonary symptoms developed later and the left lung was explored, with a negative result. The patient survived until the forty-third day after operation and at the necropsy a small abscess was found between the base of the left lung and the diaphragm.

The first successful case occurred in April, 1894. The patient was a female, aged 41 years, and the perforation was a small one in a chronic ulcer near the pylorus.

The question of premonitory symptoms is one of the highest importance, for it is found that in a certain proportion of the cases premonitory symptoms do occur although they are hard to recognise. My attention was more especially drawn to this point by having seen three patients in whom perforation occurred whilst they were under treatment in hospital. In order to gain further information on this point I analysed, firstly, the previous history; and, secondly, the symptoms immediately preceding perforation. In regard to the first point I found the following results. In five cases there was no history of previous gastric trouble of any kind; in 34 cases there had been definite dyspepsia or gastric ulceration, hæmatemesis having occurred in eight of these cases. In six cases it was stated that though there had once been dyspepsia this had not existed for some time before perforation; in five cases no information is given on the point. In

TABLE II.—*Previous History of the Cases.*

No gastric symptoms	5
Definite gastric symptoms without hæmatemesis	26
Hæmatemesis	8
Former dyspepsia	6
Not known	5

Symptoms immediately preceding Perforation.

No special symptoms	40
Hæmatemesis	2
Under treatment in hospital	2
„ „ as out-patient	1
Increasing pain and vomiting	5

22 per cent., therefore, symptoms had been completely latent before the actual rupture, whilst in many of the others the dyspepsia had been of a slight nature, not requiring any serious medical treatment.

A study of the symptoms immediately preceding the onset of the violent pain characteristic of the moment of perforation is of more importance. As is well known, in the great majority of cases the onset is sudden and without warning. In ten of the cases, however, this was not so, the condition then usually being progressive increase of pain and vomiting for a short period before perforation, this period being sometimes a few hours, sometimes two or three days. It one case hæmatemesis had occurred four times in the preceding three weeks. In another case the patient had just come to the out-patient department to be treated for gastric ulcer and was waiting at the dispensary for her medicine when perforation occurred. A second case in which hæmatemesis preceded perforation is referred to below. The comparative rarenes-s of this association is probably due to the careful treatment to which patients recovering from hæmatemesis are subjected. In ten cases I made inquiries as to the menstrual history of the patient but found no evidence that perforation is more likely to occur shortly before and during menstruation than at any other period; in two cases only did the conditions coincide. Hæmatemesis, on the other hand, undoubtedly is more frequent just before the onset of menstruation, a fact which is probably explained by the higher blood-pressure at this time.

The cases in which perforation occurred in hospital must be referred to in greater detail. All three patients were men and the similarity in the cases is very striking.

CASE 1.—This patient was a man, aged 48 years. He had suffered from dyspepsia for 12 years and for the six months before admission there had been severe epigastric pain with frequent vomiting and rapid loss of weight. On admission the stomach was greatly dilated and there was marked epigastric tenderness. During the first two days there was moderate pain but no vomiting; on the third day the pain was worse and vomiting occurred twice; on the fourth day the pain was less but there was more superficial tenderness in the epigastrium. During the evening of this day the pain gradually became worse and then suddenly the patient was seized with the most intense pain and became extremely collapsed. Six hours later a ragged irregular perforation on the anterior surface of the stomach close to the pylorus was sutured. Progress was satisfactory until the eleventh day after operation, when profuse melæna set in and death occurred on the fifteenth day. The necropsy showed that a duodenal ulcer had perforated the gastro-duodenal artery.

CASE 2.—The patient was a man, aged 37 years, who had been sent to hospital as a case of carcinoma of the pylorus. There were marked dilatation of the stomach and an irregular mass in the right hypochondrium. The patient was quite comfortable, except after taking food which caused pain and usually vomiting. Tenderness over the swelling was present throughout. On the evening of the third day symptoms of perforation occurred, followed by great collapse and death a few hours later. The lesion proved to be a large chronic ulcer with a small perforation on the lesser curvature.

CASE 3.—This case occurred three months ago. The patient, aged 63 years, was also supposed to be the subject of carcinoma of the pylorus. There had been much pain after food for six months, with rapid loss of weight and

vomiting characteristic of dilatation of the stomach for a month. On admission there were superficial tenderness over the upper part of the right rectus muscle and gastric peristalsis extending to a line one and a half inches below the umbilicus. On the second day there was constant pain, aggravated by milk and soup. On the third day, 44 hours after admission, a sudden attack of hæmatemesis occurred, a pint of dark blood and clots being vomited. Nine hours later, whilst the man was reading a newspaper, sudden agonising pain occurred in the right hypochondriac and scapular regions. The signs of perforation were obvious and the abdomen was opened two hours later; a small pin-hole perforation in the floor of a large pyloric ulcer was found, but unfortunately the patient died from syncope at the close of the operation.

A careful study of these cases leads us to the following conclusions. Premonitory symptoms are most likely to occur in cases of chronic and marked ulceration; such symptoms are progressive increase in discomfort and pain after taking food of any kind, greater frequency of vomiting, and increase of the superficial and deep tenderness in the epigastrium. When such conditions are found active and deep ulceration with the danger of perforation should at once be suspected and no food of any kind should be administered by the mouth. The patient should be kept quiet in bed and morphia especially should be avoided owing to the danger of masking the symptoms of perforation should this occur.

In regard to symptoms of perforation, the onset was abrupt in the great majority of cases, the patient being occupied with the ordinary duties of life at the time of perforation. In several instances rupture had been determined by some extra exertion or the ingestion of food; in one case vomiting had occurred just before. On the other hand, in nine cases perforation occurred whilst the patient was in bed. The severity of the initial pain is almost constant and highly characteristic of perforation. This sudden, terrible, intolerable pain is rarely met with in any other condition and cannot in its full intensity be simulated by neurotic subjects. Although as a general rule we must rely rather on what we see than on what we hear in these cases, a history of pain of this character appears to be of real value in forming a diagnosis. The situation of the pain is no guide to the situation of the lesion. In perforations of the stomach the pain is often most intense in the lower part of the abdomen, the gush of stomach contents falling towards the pelvis. It is notorious that in many cases of perforated duodenal ulcer the pain is most marked in the right iliac fossa and acute appendicitis is closely simulated. The intensity of the collapse was found to bear a fairly constant relation to the size of the perforation; and similarly, the larger the tear the more free gas in the peritoneal cavity.

Somewhat discordant statements have been made as to the frequency with which *vomiting* forms one of the symptoms of perforation. One well-known authority states that vomiting is usually absent, whilst others have suggested that it is a mechanical impossibility if the rent is at all large; Finney found it recorded in 40 per cent. of the cases and Fenwick in 29 per cent. In the present series vomiting occurred in 37 cases, was absent in ten, and was not mentioned in three; in other words, it occurred in over 75 per cent. of the cases. Generally speaking, it occurred shortly after perforation in the majority of cases and did not recur after the first few hours. In five instances, however, vomiting did not take place until an interval of two hours or more after the onset of the primary pain. Further, it was usually noticed that in the fatal cases, in which vomiting had been absent for some hours before operation, it reappeared and persisted after recovery from the anæsthetic.

The stage of reaction following the stage of collapse was met with in a large number of the cases. The degree of reaction varied but it was often well marked and then latency of symptoms formed a prominent feature. The primary collapse was recovered from, the pain subsided, the vomiting ceased, and two of the patients even walked into the hospital with their peritoneal cavities bathed in gastric contents; occasionally the pulse became normal in frequency and tension, the temperature normal, and no unusual physical signs were discoverable in the abdomen. This period has been well described as the quiescent period, or the period of repose, and should the true state of affairs not be grasped disaster may follow. If the patient is first seen in this stage, as frequently happens, a serious view may not be taken of the case and a fatal delay may result. The treacherous calm is followed by storm, the acute symptoms return, and the presence of acute peritonitis becomes unmistakeable. Numerous instances might be related of this. The following two cases, however, will illustrate the condition well.

CASE 4.—A man, aged 36 years, walked into St. George's Hospital complaining of "stomach ache" which he attributed to having eaten half a pound of unripe cherries on the previous evening. The pain had come on suddenly two hours before he came to hospital and had been severe and accompanied by vomiting. When seen his general condition was perfectly good. He complained of slight colicky pain about the umbilicus; the pulse was 76, the temperature was 98·4° F., and the abdomen was soft, without tenderness or rigidity. He was admitted and carefully watched. Slowly but progressively the pulse increased in frequency—a point of especial importance. At 6 P.M. it was 96, at 10 P.M. it was 110, at midnight it was 116, and at 2 A.M. it was 128. The abdomen became board-like and tender and vomiting returned. Laparotomy was performed, revealing a perforated duodenal ulcer with early general peritonitis; the perforation was sutured, the peritoneum was cleansed, and the man made an excellent recovery.

CASE 5.—This case was that of a young woman, aged 22 years, who was sent to hospital with a history of sudden abdominal pain and collapse without vomiting. On admission there was nothing in her appearance to suggest that she was ill. Her pulse was 72 and of good quality, her temperature was 98 6° F., and the abdomen presented no tenderness, rigidity, distension, or abnormality on percussion. A few hours later her pulse became more frequent and the abdomen tender and board-like. Laparotomy was performed and a perforated gastric ulcer was found.

Having thus emphasised the latency of symptoms during the period of reaction the next point which I wish to raise is the effect of stimulants in producing temporary improvement in the patient's condition and in masking the gravity of the case. The quiescent period, of course, occurs quite apart from the administration of morphia or stimulants, although these measures naturally intensify it. The action of morphia in this respect is universally known but I believe that stimulants will produce a similar deceptive improvement, especially in the form of the large doses of brandy so often administered by sympathetic relatives and friends. In Case 5 the medical man had injected 12 minims of solution of strychnine owing to the profound collapse in which he had found the patient. This treatment was undoubtedly beneficial but I think contributed largely to the complete quiescence of symptoms observed a few hours later.

The condition of the hepatic dulness appears to be inseparably connected with the notes of cases of this kind. It forms an obvious and striking physical sign but experience shows that it is of comparatively little value and likely to mislead if relied upon. It has been weighed in the balance and found wanting. Cases of uncomplicated gastric ulcer without any distension of the abdomen have been published in which the liver dulness has been completely absent and in which laparotomy has proved that no perforation existed. The condition of the liver dulness is definitely stated in 43 of the cases; it was normal in 11 cases, completely absent in 12, and diminished in 20 cases. In several instances in which it was diminished this change was found to be limited by the falciform ligament and then dulness was more often absent to the left than to the right of the ligament. It has been suggested that loss of the hepatic dulness as far back as the mid axillary line can only be produced by the presence of free gas in the peritoneal cavity, not by other conditions such as distended intestine. In order to test the accuracy of this statement I carefully examined the liver dulness in ten cases of perforation; in seven of these it was diminished or absent, and in four of the cases this diminution extended to the mid-axillary line. On the other hand I discovered a similar condition in two cases in which the abdomen was opened but no perforation was found. This sign, therefore, seems equally unreliable. The exact cause of this change in the liver dulness, when not due to the presence of free gas in the peritoneal cavity, is extremely difficult to explain and several theories have been advanced. It seems unlikely that the distended colon can often lie actually in front of the liver, for it is very rare at necropsies of any kind to find intestine between the liver and the anterior abdominal wall; in one of the fatal cases in

this series, however, in which liver dulness was noted as absent before operation, the colon was found in front of, and considerably compressing, the right lobe of the liver.

It has been stated that the presence of a well-marked area of stomach resonance in the left hypochondrium contra-indicates perforation of the stomach. It was, however, frequently noted during the operation that the stomach was distended with gas and sometimes greatly distended when the perforation was small or valvular. The extent of gastric resonance is therefore of no diagnostic value. I may here mention that in two cases seen shortly after perforation I was struck by the fact that sweating, though present over other parts, was more intense by far over the epigastrium.

The situation of the perforation is shown in the accompanying diagram. During operation it is often very difficult

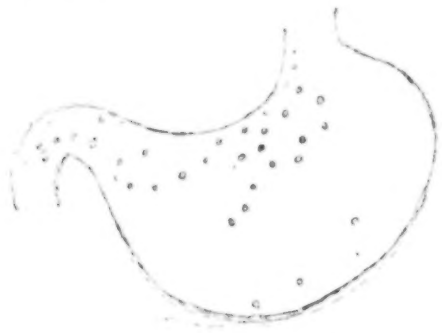

Diagram showing the situation of ulcers on the anterior wall of the stomach and the duodenum.

to be certain as to the exact position of the ulcer, more especially when there are many adhesions or much lymph around, and discrepancies upon this point are frequently found in the accounts of the operations and the post-mortem reports. The diagram shows that perforations most commonly take place in ulcers situated close to the lesser curvature and are rather more frequent towards the cardiac than the pyloric end of the stomach. On the other hand perforating ulcers close to the greater curvature are comparatively rare. Five of the ulcers occurred on the posterior wall, close to the pylorus; the rents were usually large and the gastric contents had escaped through the foramen of Winslow into the greater sac of the peritoneum. The duodenal perforations all occurred in the first part of the duodenum, six on the anterior wall and two on the upper and posterior wall.

The number of instances in which perforated duodenal ulcers have been successfully sutured is still so small that details of two cases in this series may here be referred to. The first case has already been mentioned as an example of the "latent period" or period of repose; it has been published in detail elsewhere.[2] The second case occurred in a female, aged 22 years, with a history of old but not recent indigestion. Eight hours after taking some aperient pills she was suddenly seized with agonising pain, felt at first in the right hypochondrium and later spreading over the entire abdomen. She felt sick but no vomiting occurred. The pain continued and morphia was given; the bowels acted scantily after an enema on the third day, when she was admitted into hospital. Her condition was then marked by morphia; pain was referred vaguely to the right side; the abdomen was hard, rigid, and tympanitic all over, immobile, but not much distended; liver dulness was diminished. Laparotomy was performed about 68 hours after the onset of symptoms and free gas with foodstuff was found in the peritoneal cavity. A small perforation in the first part of the duodenum was discovered and occluded by a purse-string suture, strengthened by four Lembert stitches. The peritoneum was thoroughly irrigated and she was discharged four weeks later after an uneventful convalescence.

The possibility of saving the patient's life even in the most desperate cases is further illustrated by a case in which a perforated gastric ulcer was successfully treated 72 hours after the onset of symptoms. The case is a remarkable one for there was intense general peritonitis and the patient's condition before operation was so precarious that surgical interference seemed scarcely justifiable.

The incidence of complications arising after operation will next be discussed. Of the 24 cases in which the patients recovered definite complications occurred after operation in 13, whilst in the fatal cases in which the patients survived the first 24 hours after operation complications developed in eight. In the two cases in which perforated duodenal ulcers were successfully sutured the patients recovered without complications; empyema was present in one of the fatal cases. It appears that in more than half of the successful cases complications may be expected during the period of convalescence, and, further, that complications are often multiple and are more commonly noticed after than during the first week.

TABLE III.—*Incidence of Complications.*

	Non-fatal cases.	Fatal cases.
Parotitis	4	1
Pleurisy, plastic or serous	6	9
Empyema	—	2
Pneumonia	1	2
Pulmonary abscess	—	1
Thrombosis	3	—
Hæmatemesis	1	2
Hæmorrhage from another ulcer	—	1
Nephritis	1	—

Inflammation of the parotid gland occurred in five cases, being bilateral in two and involving the gland on the left side in the other three. It was first noticed on the second, third, fifth, sixth, and sixteenth days respectively and in the bilateral cases the onset of inflammation on the two sides was separated by an interval of two days. Suppuration—a very unusual event in these cases—occurred in both glands in the first case operated upon at St. George's Hospital; the right parotid had become inflamed on the second day and the left on the fourth day, and pus was discharged from both ears on the ninth day. Incisions were made and the resulting sinuses persisted until death six weeks later.

No definite relation to the absence of feeding by the mouth is noticed, three of the patients in whom this complication occurred having had food by the mouth for more than 24 hours. Mr. B. N. Tebbs, of St. George's Hospital, has very kindly given me figures relating to the incidence of non-specific parotitis. Of 32 cases occurring in this hospital during the last ten years 21 followed operation upon, or disease of, the stomach.

	Cases.
Uncomplicated gastric ulcer	11
Perforated gastric ulcer	5
Excision of gastric ulcer	1
Gastrostomy, gastro-enterostomy, &c.	4
Total	21

Pleurisy is by far the commonest complication, occurring in six of the successful cases and being found in 11 of the 21 cases in which the chest was examined post mortem. As would be expected, the left side was most commonly involved; the actual figures are—both sides, five cases; left side, ten cases; right side, two cases. The pleurisy was usually of the dry fibrinous variety (11 cases) and limited to the diaphragmatic area. In two fatal cases, however, an empyema was present. It seems probable that the pleurisy is often due to the transmission of toxic products through the diaphragm and not to the presence of micro-organisms, for the effused fluid is usually sterile and empyema is uncommon. This is illustrated by a case which occurred two years ago.

CASE 6.—The patient was a female, aged 23 years. On the fifth day after operation friction was heard in the left lower axillary region; this was followed by signs of effusion into the pleural cavity and on the eleventh day the pleura was aspirated and 21 ounces of serous fluid were withdrawn. Microscopically this was found to contain a very large number of highly active leucocytes, whilst cultures made from the fluid proved absolutely sterile. The temperature remained high and irregular and rigors occurred. An empyema was suspected and the pleural cavity was opened

[2] THE LANCET, March 29th, 1902, p. 890.

in the mid-axillary line on the sixteenth day. Only clear fluid, however, was found and so the diaphragm was punctured. This led to the discovery of a large subdiaphragmatic abscess containing a quantity of very foul pus.

Amongst the other complications are the following. Thrombosis occurred in three cases, the left external saphena vein being involved twice, and the deep veins of the left leg in the other case; the symptom was first noticed on the fourteenth, sixteenth, and seventeenth days respectively. Severe hæmatemesis occurred in three cases, two of which ended fatally; death in one case was due to blood inhalation during vomiting, the trachea and bronchi being found full of blood post mortem. Reference has already been made to a case in which severe hæmorrhage from perforation of the gastro-duodenal artery by a duodenal ulcer proved fatal 11 days after successful suture of a perforated gastric ulcer. Hæmaturia and albuminuria were noticed on the seventh day in a female, aged 28 years, although as far as could be ascertained this condition had not existed before. Albumin and renal casts with a few pus cells were present in the urine for six weeks, at the end of which time the urine became normal.

All the symptoms and physical signs of perforation may be presented and yet the stomach may be found intact when the abdomen is opened. Such cases must occur in the practice of any hospital or of any surgeon of experience, for undoubtedly the correct treatment is to explore whenever perforation is suspected. A small incision above the umbilicus will at once decide the question and involves practically no risk in itself, whilst a few hours of delay may be sufficient to make operation futile. These cases may be divided into two classes—those in which some other peritoneal lesion is found and those in which nothing abnormal is discovered. I have the notes of seven such cases. All the cases occurred in young females with histories of gastric trouble; the symptoms and signs pointed to perforation of the stomach and operation proved that this had not occurred. In three cases no abnormality of any kind was discovered; one case was especially interesting as she was admitted at exactly the same time as another patient with exactly identical symptoms, which proved in the latter case to be due to a perforated gastric ulcer. Another patient, a highly neurotic woman, aged 28 years, who had already had laparotomy performed twice, was admitted in the middle of the night with acute abdominal symptoms. In the fourth case nothing was discovered beyond some blood-stained œdema of the gastric attachment of the omentum. In the fifth case the peritoneal cavity contained blood-stained fluid; the pelvis was examined through a second incision and apparently rupture of a small ovarian cyst was the cause of the condition. The sixth and seventh cases proved fatal. In one the abdomen was full of odourless turbid serum and a most careful search failed to reveal the source of the infection; the stomach was most certainly intact; no necropsy was performed. The other was a case of acute appendicitis with general peritonitis in a young dyspeptic girl in whom all the physical signs were most intense in the epigastric region. The reverse condition, of course, is more common—namely, the simulation of appendicitis by a perforation of the pyloric end of the stomach or duodenum, owing to the downward gush of fluid, and in four cases in this series the primary incision was made over the region of the appendix. It is interesting to note that in two of the three cases in which there was no intra-abdominal lesion the symptoms occurred shortly before the onset of the menstrual period. I have seen several other cases in which neurotic women have presented acute abdominal symptoms at this time; the clinical picture of perforated gastric ulcer may be closely simulated, but, generally speaking, there are not the severe collapse and intense pain at the outset and constitutional disturbance is not so marked. The symptoms clear up with the onset of menstruation. It would be interesting to hear of other cases of this nature.

The frequency with which ulcers are present in other parts of the stomach or duodenum is well illustrated by examination of the fatal cases. In 13 of the 21 cases in which necropsies were performed other peptic ulcers were present and it is quite possible that small ulcers may have been overlooked. In two instances four ulcers were present in addition to the one which had perforated. Their most common situation was exactly opposite the peforated ulcer. Although no cases of double perforation occurred, in one instance a second acute ulcer of the perforating type was found to have reached the peritoneal coat of the stomach.

In regard to the details of the operations it is found that general irrigation of the peritoneal cavity was employed in 31 cases, local irrigation in nine cases, and in the remainder sponging only was relied upon; with each of the three methods the mortality was the same—namely, about 50 per cent. A further point brought out by a study of the cases is the *increasing tendency to dispense with drainage*. This is a question upon which surgeons differ greatly and is one well worthy of discussion. The difficulty in securely closing the perforation in deeply seated ulcers was frequently found to be diminished by the preliminary separation of adhesions to the liver and surrounding parts and by the use of cleft palate needles: the line of suture was strengthened in six cases by omental grafts or plugs and in three cases by a similar use of masses of lymph. In a case in which the perforation was deeply placed near the œsophageal opening and stitching was impossible owing to the friability of the surrounding gastric wall, strips of gauze were passed down to the ulcer; no further escape of gastric contents occurred and an uneventful recovery followed.

In conclusion reference must be made to the *after condition of the patients*. Do the symptoms of gastric ulcer recur or is the patient cured by operation? The question is one of practical importance, for certain authorities recommend that a posterior gastro-enterostomy should be performed after the perforated ulcer has been dealt with if the patient's condition will bear it. This operation would be exceedingly difficult, or perhaps impossible, if attempted at a later date, and so it is urged that it should be done at once in order to complete the patient's cure. Regarding the matter from a theoretical point of view we might expect the symptoms of ulceration to recur if the perforation be simply sutured. These ulcers are known to be usually multiple and the local conditions which favour ulceration still exist. In practice we find that this is not the case; the after-results are surprisingly good. During the last summer I have written to each of the 24 patients in the successful cases. An investigation of this kind is always difficult, for hospital patients of all kinds, and domestic servants in particular, are constantly changing their address and so are readily lost sight of. I was able, however, to trace 17 of the 24 patients. The reports of these cases may be summarised as follows. In 11 cases there had been no return of gastric symptoms of any kind and the patients had been quite well since the operation; two had married and had had children; and in four cases dyspeptic symptoms were complained of, two being readmitted into hospital for short periods. The point which I wish to emphasise here is that the symptoms were characteristic of dyspepsia and not of gastric ulcer; the pain was of a dull, aching, diffuse character and in no case was there vomiting or hæmatemesis. One patient came under treatment one and a half years after operation for œdema and superficial varicose veins of the leg; this case had been complicated by thrombosis and was satisfactorily treated by an elastic stocking; there were no gastric symptoms. Another patient was recently seen seven years after operation. She was suffering from congestive dysmenorrhœa and the pelvic organs were found to be extensively matted by firm adhesions; slight peristalsis of the intestinal coils was also visible through the abdominal wall. She had been married for five years and was sterile. It seems highly probable that in this case the pelvic peritonitis, with the subsequent dysmenorrhœa and sterility, dated from the gastric perforation. The number of cases is small but the results point conclusively to the fact that the great majority of the patients are cured of their gastric ulcers if they survive the primary operation. Dyspeptic symptoms occur in a small proportion of cases and are readily amenable to medical treatment. Gastro-enterostomy is therefore unnecessary; in any case there are many arguments against its immediate use in cases of perforation. It materially increases the duration of the operation and rapidity is essential if the patient is to have her best chance. In itself the operation involves an increased risk: the parts are in the worst possible condition for a complicated plastic operation; and finally, as I have said, it is unnecessary. I have already referred to a patient who died from hæmorrhage from a duodenal ulcer on the fifteenth day after suture of a ruptured gastric ulcer. In this case it is possible that a gastro-enterostomy might have checked the progress of the duodenal ulcer and prevented the fatal hæmorrhage; but the

case is quite an exceptional one and forms no argument for the routine performance of gastro enterostomy.

TABLE IV.—*After Condition of the Successful Cases.*

No gastric or other symptoms	11
Œdema of the leg following thrombosis	1
Symptoms due to peritoneal adhesions	1
Dyspepsia (no symptoms of gastric ulcer)	4
Not traced	7
Total	24

Grosvenor-street, W.

CLEFT-PALATE AND HARE-LIP; THE EARLIER OPERATION ON THE PALATE.

BY EDMUND OWEN, F.R.C.S. ENG.,

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FOR about 20 of the years that I was upon the active staff of the Hospital for Sick Children, it was my practice to operate upon hare-lip in early infancy but to postpone the treatment of the cleft-palate until the child was two, three or four years old. This plan of procedure was, indeed, a very general one. It had been adopted for several reasons—the fissured lip was dealt with before the cleft-palate because experience had shown that if the infant were in a fair state of health he could confidently be trusted to stand the shock of that lesser operation. Moreover, it was thought that if the gap in the lip were soundly closed the anterior part of the palatine cleft would keep on growing narrower up to the time of the operation on the palate. The palatine cleft was left uninterfered with because it was thought that at this tender age the infant would not be likely to survive the shock of the prolonged operation for its closure, accompanied, as it must be, by a very considerable loss of blood.

FIG. 1.

Cleft palate and hare lip in an infant aged three months.

A few years ago my attention was directed by my colleague at St. Mary's Hospital, Mr. Morton A. Smale, to the method of treatment of cleft-palate which he had seen Dr. Brophy adopt at Chicago. Dr. Brophy not only operated upon the palate before the lip in early infancy, but he dealt with the palatine cleft in an original and very radical manner, namely, by boldly thrusting the maxillary and palate bones together in the middle line.

Since becoming more fully acquainted with Dr. Brophy's method I have cordially adopted it, and though I realise that it is not unattended with risk, still I consider the advantages associated with it are so great that the extra risk may be unhesitatingly accepted.

By way of illustrating Dr. Brophy's method, I will briefly describe it as carried out in the case of a male infant whom Dr. D. Bennie Hewat recently sent to me from Cape Town. The infant was three months old on Feb. 3rd, 1903, the day that I first saw him. He was a miserable-looking object, and he weighed but six and a half pounds. When he cried, the mouth and naso-pharynx showed as one large cavity (Fig. 1) which the maxillary processes very ineffectually attempted to separate. Indeed, for so small an infant, the cleft was enormous—which is much the same thing as saying that the horizontal processes of the maxillary and palatine bones offered but scanty material for the formation of a roof to the mouth. This is not shown in the illustration, but the width of the gap in the lip more than suggests that the palatine cleft was a wide one. Its exact width, as determined by a pair of compasses, is shown in Fig 2. The

FIG. 2.

Cleft of palate extending into the right nostril in an infant aged three months.

cleft extended into the right nostril. The vomer was adherent to the left maxillary process.

Before the operation, a warm enema of peptonised beef-tea with a little brandy was given, and the infant was swaddled in Gamgee tissue. The operating-table was made almost as high as an ordinary mantel-shelf, so that the surgeon might carry on his work without having to stoop too much. Chloroform was the anæsthetic, which Mr. Henry Davis gave on a small mask. The tongue was drawn forward by a long suture, and the mouth was kept open by a modified Smith's gag.

The operation was begun by paring the edges of the cleft, and after this I tried, but ineffectually, to thrust the maxillæ towards each other by firm pressure with the fingers and thumb. Next, following Dr. Brophy's directions, I raised the cheek, and, by a strong curved needle in a handle, passed a silk suture across the nasal fossa, above the level of the hinder part of the alveolar processes. The end of a thick silver wire was then hooked on to this suture, and, by pulling on the latter, the wire was made to take its place. The wire suture thus lay above the horizontal processes of the palate bones, where it could be seen through the cleft. Similarly, a wire suture was taken through the maxillæ above the front part of the cleft. Two small, oblong leaden plates, with a hole drilled near each end, had already been prepared, and one of them was then laid along the outside of the right maxilla, under the cheek, the end of the hinder wire being passed through the posterior hole, and the end of the front wire through the anterior hole. The right ends of the wires were then twisted together from left to right, the plate being closely applied against the maxilla, after which the twisted ends of the wires were pressed down flat. The ends of the wires under the left cheek were then similarly treated, and as they were being twisted up the maxillæ were squeezed together, or, rather, another vigorous attempt was made to squeeze them together. But I could not move them. So, in accordance with Dr. Brophy's advice, I then incised the mucous membrane over each malar process and, introducing a scalpel, divided

the maxillæ sufficiently to enable me to thrust their palatine processes into the middle line. After this it was at once seen that the width of the gap in the lip was much less, and that the lateral halves of the soft palate were brought quite close together. Fine wire sutures were then passed through the freshened borders of the entire cleft.

The infant was very ill for two or three days, and the union of the sutured borders was only partial, but the front of the cleft was solidly closed, and a useful bridge held securely at the junction of the hard and soft palate. Subsequently, by the aid of three small supplementary operations, the cleft was entirely closed with the exception of a spot of the size of a rabbit shot about a quarter of the way along the line of suturing. (This I closed just before the child was about to depart on his journey home to the Cape.) On May 5th, after he had been for a visit to the seaside, I operated on the hare-lip, his weight being then 12 pounds. The present condition of the infant is shown in Fig. 3.

FIG. 3.

Appearance of the infant after operations on palate and lip.

In a letter dated Oct. 13th, 1903, Dr. Hewat sends me the report of his examination of the child on his return to Cape Town. He says that he deems the result an excellent one both as regards the palate and the lip, "very much better than I thought possible on account of the gap being so large and there being so little tissue available for the purpose of filling in."

In this particular case the cleft was so wide that when I had with difficulty approximated the anterior parts of the maxillæ I was afraid to deal with the hinder part of the cleft as thoroughly as I had intended. In ten days time, however, I did a little more, and after another ten days I vivified and sutured the sides of the soft palate and uvula the opposed borders of which were lying quite close to each other.

The essential, and at the same time the most difficult, part of Brophy's operation is the approximation of the maxillæ Brophy, however, apparently finds little trouble or difficulty with it. He says: "If we are unable to close the fissure with these wires, if from lack of time or from firm resistance of the parts it cannot be done, there is a further method to be employed which will obviate these difficulties. With your knife, after the cheek is well raised, divide the mucous membrane just over the malar process. Here insert a knife in a horizontal direction," dividing the bone freely but damaging the mucous membrane as little as possible. The lower parts of the maxillæ are thus loosened, and on again twisting up the wire the front of the palatine cleft is closed by their approximation.

A priori I should have expected that this thrusting inwards of the maxillæ would have determined the occurrence of a contracted palate. Up to the present I have been unable to inform myself on this matter, but Brophy, who speaks from ample experience, affirms that this is not so. He argues that the alveolar process develops with the eruption of the teeth, and that in due course the teeth of the upper jaw will be found antagonising those of the lower jaw "in a normal way." But should this antagonism not take place, Brophy, speaking *ex cathedrâ*, as professor of dental surgery, says that the arch can be expanded and the slight abnormality removed.

If, as the child grew, the superior maxillary arch did not widen out sufficiently to embrace that of the lower jaw, it would be no difficult matter, I imagine, for the dental surgeon to insure this taking place. But even if the arch were ultimately found comparatively small, that defect would be more than counterbalanced by the fact that, owing to the approximation of the hinder ends of the maxillary processes, the surgeon had been enabled to form a soft palate without the occurrence of tension, and without interfering in any way with the (palatine) attachments of the tensor palati, the palato-pharyrgeus and the levator palati.

After operating by the old method, it is quite a common experience to find the velum as tight as a drum as soon as the sutures are inserted, and if it were so left not many hours would elapse before the edges tore themselves asunder. But of course the surgeon does not leave the adjusted velum in that condition. He relieves it of all tension either by the method of Fergusson or Pollock, or in some other way. The plan which I follow is that of making a free incision from before backwards through the entire thickness of each half of the velum near its lateral attachment. And when the cleft has been wide, the available tissue of the soft palate scanty, and the tension, therefore, considerable, it takes no little courage to make these lateral incisions sufficiently free. Subsequently, whether the line of sutures holds, or whether it breaks down, these lateral incisions gradually fill up. But inasmuch as they fill up with granulation tissue which is eventually converted into scar tissue, the muscular or aponeurotic fibres of the velum cannot escape permanent damage, which must surely have a prejudicial effect upon those delicate movements of the soft palate which make for clear articulation. To what extent this injury may be responsible for the imperfect results—so far as intonation is concerned—which sometimes follow even an entirely successful operation upon a wide palatine cleft, one cannot say. But I must regretfully admit that in some cases in which I have secured a perfect closure of a palatine cleft at the age, say, of three or four years, I have found that when the child reached puberty the clearness of articulation and the tone of the voice left much to be desired, even though considerable care might have been expended over the vocal education. And if to this damage to the soft palate must be ascribed a fair share of the defect in the intonation of later years, Brophy's modification in operating is an important and valuable one. For when the halves of the hard palate have been forcibly approximated, the borders of the soft palate hang so close together that their adjustment can generally be effected without tension, so that it is unnecessary to make lateral incisions, or in any other way to interfere with the insertion of the tensor palati or with any other element of the velum. In some cases it may be advisable to steady the adjusted halves, and to relieve them of all tension, by the use of a large suture of silver wire the ends of which are secured by a split shot. This keeps the insertion of the tensor palati temporarily at rest.

Inasmuch as vocalisation is greatly dependent upon the anatomical integrity of the soft palate, and as Brophy's method enables the velum to be repaired with less interference with it than does any other operation with which I am acquainted, it might be advisable somewhat to sacrifice the hard palate to the soft if sacrifice were demanded. And this, Brophy affirms, is not the case. He says, indeed, that the palate with a congenital cleft is too large for the lower jaw to the extent of the width of the cleft, and that the approximation of the superior maxillæ is in itself advantageous.

And just as the approximation of the hinder part of the maxillary processes gives assistance in the closure of the cleft in the soft palate, so does the approximation of their anterior part simplify the subsequent operation on the hare-lip.

In conclusion, I would urge that, serious as is the operation on the palate the infant may be expected to survive it.

I have been surprised at the way in which the infants stand it. Brophy goes as far as to say that "the shock following the operation is not so great if performed within the first month, as it would be later in childhood." Of this I am by no means sure, however.

That, inasmuch as the maxillæ are closely approximated, the halves of the velum can be stitched together without tension and without the need of interfering with the attachment of the muscles of the soft palate.

That, as the approximated halves of the soft palate can be sutured without interference with the muscles of the palate, the prospects of securing a natural voice are greatly increased.

That, as the maxillæ have been brought together in front, the subsequent operation upon the hare-lip is rendered much easier of performance, and a more artistic result is obtainable.

Great Cumberland-place, W.

NOTE ON THE RESPIRATORY MOVEMENTS IN HEMIPLEGIA.

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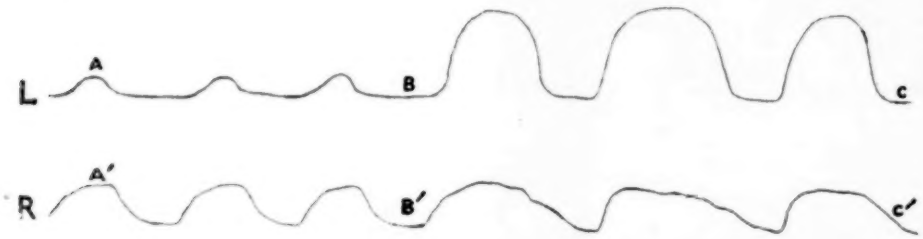
IN THE LANCET of 1895[1] and of 1899[2] Dr. J. Hughlings Jackson pointed out that many cases of hemiplegia gave support to his hypothesis "as to the great differences of the nervous mechanism for the two very different services, organic (respiratory) and animal (voluntary), of the respiratory apparatus." Dr Jackson observed that in some cases of hemiplegia the uppermost part of the costal region of the thoracic cage moves slightly more on the paralysed side of the body in respiration proper (ordinary breathing) and slightly less on that side in voluntary expansion of the cage (deep or forced inspiration). Taking as an illustration a case of left hemiplegia his explanation of these differences in the movements of the thoracic cage is as follows: "The greater amplitude of movement of the left upper cage in respiration proper is, I suggest, owing to destruction of some fibres from the cortex which are for *continuous* inhibition of the left respiratory (medulla) centre; the less amplitude of voluntary expansion of that left upper cage is, I suppose, owing to destruction of some motor fibres from the cortex which, evading the respiratory centre, pass direct to certain left anterior horns and by these act on the intercostal muscles."

Without attempting to discuss how far this explanation is correct I wish to bear witness to the accuracy of the clinical observation which appears to have been somewhat overlooked by subsequent writers. During the last few years I have examined a large number of cases of hemiplegia, both recent and old, and in at least 60 per cent. of them the movement of the upper part of the thoracic cage during ordinary breathing was a little greater on the hemiplegic than on the other side of the body. This difference is indicated in the accompanying tracing which was obtained with the help of my house physician, Dr. C. O'Neill, who devoted much time and care to the arrangement of a suitable apparatus. This consists of two air tambours which by means of indiarubber tubes are brought into communication with recording tambours, the levers of which inscribe the movements of the thorax upon a revolving cylinder. Each air tambour is held in position on the chest by a leaden tube which is attached to a firm stand. The tubes being flexible each tambour can be placed evenly on the surface of the chest.

The case from which the tracing was taken was that of a man, aged 50 years, suffering from right hemiplegia of six months' standing. He fell one morning in getting out of bed and it was then found that his right side was paralysed. The attack was not attended by loss of consciousness. On admission to the infirmary last October the hemiplegia was well marked; he was unable to stand and when in bed the movements of the right leg were very feeble. The distribution of the paralysis in the right arm differed from the common type, there being slight power to move the fingers and to flex and to extend the elbow but complete paralysis of all movements at the shoulder joint. The right side of the face was affected and the tongue on protrusion deviated towards the paralysed side. There was no anæsthesia; the speech, which was impaired for a time after the attack, was quite natural. On placing the hands in symmetrical positions on the upper part of the chest, the slight excess of movement on the right side during natural breathing was at once noticed. The movement had more amplitude and it began before and came to an end after that on the left side. When, however, the patient took a deep voluntary breath the excess of movement was on the left side. These variations affected also the lateral movements of the chest, as shown by grasping the lower costal regions. The above observations were confirmed by my clinical clerks and others before they knew anything about the case. It is, indeed, of importance to obtain observations regarding the thoracic movements in any case of hemiplegia from persons who do not know the nature of the patient's ailment and whose judgment, therefore, is an unbiased one.



Respiratory movements in a case of right hemiplegia. R. right side. L. left side. A B and A′ B′, Normal respiration. B C and B′ C′, Forced respiration.

Manchester.

[1] THE LANCET, Feb. 2nd (p. 274), 16th (p. 394), and 23rd, 1895 (p. 476).
[2] THE LANCET, Jan. 14th, 1899, p. 79.

A CASE OF ARTERIAL THROMBOSIS OF GONORRHŒAL ORIGIN.

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IT has been clearly established by a number of exact observations that an acute gonorrhœal urethritis may be the starting point for a grave septicæmia which may be purely gonococcal or mixed or due to some concomitant organism and that as complications of such systemic infection certain lesions of the vascular system not infrequently obtain. Among these endocarditis and myocarditis are the more usual, thrombo-phlebitis has been noted but is relatively uncommon, whilst arterial thrombosis in such a sequence has, so far as I can ascertain, not hitherto been described, yet that it may occur is apparent from the following example which came under my cognisance whilst pathologist to the Manchester Royal Infirmary.

A man, aged 20 years, was admitted to the Manchester Royal Infirmary, under the care of Mr. W. P. Montgomery,

suffering from early dry gangrene of the left leg. He gave the following history. Four days previously to admission he had a slight shiver, became feverish, and in consequence took to bed. After three days he complained of his left leg being cold and painful, especially so in the heel, and also of some pain in the left side of the abdomen. The condition of the leg had come on quite insidiously and became progressively worse. On admission to hospital his general appearance was clearly indicative of some grave general condition: he was pallid, the skin was clammy, and the temperature was 101·5° F. The left leg below the tubercle of the tibia was cold, waxy, pulseless, and anæsthetic. The three outer toes showed commencing mummification and the skin over the instep presented a patch of discolouration. The thigh was warm and apparently quite normal. The right leg also presented no obvious circulatory disturbance. The existence of a purulent discharge from the urethra was noted and the meatus was inflamed, but no definite history of gonorrhœal infection could be elicited. That such was the nature of the urethritis, however, was shown by the presence of the gonococcus in large numbers in specimens of the purulent material obtained from the urethra after death. Elsewhere there were no manifestations of other lesions; the heart and the lungs were normal, the spleen was not enlarged, and the urine, containing a trace of albumin and a small amount of purulent débris from the urethra, contained neither blood nor sugar. On the day following admission the general condition of the patient was worse, the evening temperature was 102°, and the left leg now presented considerable discolouration extending up to the knee. It was now noted that pulsation of the left common femoral artery at the pelvic brim could not be felt. On the next day the patient had a cachectic appearance and was sweating profusely. His temperature was 101·6°. Examination of the heart revealed a loud systolic mitral bruit. During the evening he complained of his right leg feeling cold and on examination the femoral pulsation was found to be almost impalpable, whilst the limb below the knee was cold, pulseless, and anæsthetic. During the next two days the general condition became markedly worse, ending in coma and death four days after admission to hospital and eight days from the initial rigor. During the whole time blood was never present in the urine.

Necropsy.—Externally the body appeared to be well developed and fairly nourished. The anterior half of the left foot was mummified and the posterior part of the leg as high as one inch above the knee had a livid appearance. On the foot no sharp demarcation was noticeable between the mummified and livid portions nor on the thigh between the latter and the normal skin above. The right foot and leg were dry and livid but there was no indication of mummification. Elsewhere the skin was pale but otherwise normal. From the urethra a small quantity of purulent material was squeezed and removed for examination. With regard to the circulatory system, the pericardium was normal. The heart weighed ten ounces and was normal in form and size; the myocardium was flabby and somewhat friable; of the various cavities, the right auricle and ventricle were somewhat dilated, those of the left side were normal; in none was there any thrombus, old or recent, or any indication of such; the foramen ovale was closed; the valves were quite healthy. Some degenerative changes in the myocardium with slight dilatation of the right heart were the only morbid changes discoverable. The aorta as far as the origin of the renal arteries was healthy and free from clot, but below that situation it was completely occluded by firm, reddish-grey, adherent thrombus. The upper end of the thrombus was inclined obliquely from the orifice of the left renal artery above down to the wall of the aorta below the orifice of the right renal artery. The left renal artery itself was also occupied by similar but rather softer thrombus extending into its several subdivisions in the hilum. The right renal artery was free from thrombus and appeared to be quite healthy. Below, the thrombus continued in its completely obstructing form into the common iliac arteries and along these into the external and internal iliac arteries on both sides. In the external iliac arteries it extended on the left side into the common femoral artery and on the right side to within half an inch of the pelvic brim. The internal iliac arteries and their secondary branches were similarly occupied by thrombus. The remainder of the arterial system was normal. The veins throughout were free from thrombus or other obvious lesion. With regard to the respiratory system, the lungs were the seat of passive congestion and the posterior parts were somewhat friable; otherwise they were normal, as also were the pleuræ and the air passages. As to the digestive system, beyond fatty degeneration in the liver there were no features of note. The condition of the genito-urinary system was as follows. The right kidney was the seat of well-marked recent passive congestion. The left kidney, in consequence of occlusion of its artery, was almost completely necrosed; it was enlarged, weighed seven and a half ounces, was normal in shape, of a pale yellowish colour, and firm, its capsule being slightly adherent and on section the whole parenchyma except a small area of cortex at the upper end and the tips of the pyramids presented the appearances of coagulation necrosis. The branches of the left renal artery in the hilum and one or two in the boundary zone were occupied by adherent, soft, red thrombus. The ureters and bladder were normal; the urethra was the seat of a well-marked purulent catarrh specially marked in its posterior part, and in the prostate one or two tiny foci of suppuration were visible on section. The genital glands and ducts were normal.

Microscopical examination.—Sections of various portions of the thrombosed arteries showed similar appearances. The lumen of the vessel was completely occupied by thrombus which in places, especially close to the walls, had a fibrino-cellular structure and in other parts had the appearance of more recent red clot. Of the arterial wall the adventitia and media were apparently normal; the intima, however, had in many places entirely disappeared, while here and there remains of it were indicated by the presence of proliferating and degenerate endothelial cells, some of which could be traced some distance into the adjacent thrombus. Sections stained with the basic aniline dyes showed the existence of a few scattered diplococci—decolourised by Gram's method—in the peripheral portions of the thrombus. No cultural examination of the blood was undertaken either during life or after death.

The results of the pathological investigation of this remarkable case leave, I think, little doubt as to the causal relation between the gonorrhœal urethritis and the curiously localised arterial thrombosis which was responsible for the gangrene of the extremities. The precise pathogenesis of the thrombosis—a sufficiently striking event in such a situation apart from its present association—demands some consideration. The explanation that immediately suggested itself at the necropsy was in effect that one had to deal with embolic obstruction of the common iliac arteries, the left the more completely at first, by a riding embolus lodged at the bifurcation of the aorta and that this had induced secondary thrombosis. Further consideration, however, rendered this view barely tenable. In the first place, the thrombus presented no such differentiation as would obtain under these conditions; secondly, its occurrence in the small intrapelvic branches of the internal iliac arteries and its limited extent in the external iliac arteries would be difficult of explanation on such grounds; and lastly, though specially sought for, no evidence of embolism elsewhere could be found nor any possible source of an embolus. Such a hypothesis would necessitate an embolus of considerable size and accordingly the possibility of a dislodged cardiac thrombus was inquired into, but neither in the left nor in the right cavities of the heart was there any indication of thrombus formation and whilst the absence of dilatation of the cavities on the left side precluded such a possibility the closed foramen ovale eliminated the slightly dilated cavities of the right side from being its source. It remained then that the thrombosis was a primary process depending on some alteration in the arterial wall and possibly on some alteration in the composition of the blood.

The condition found microscopically—the proliferative and degenerative changes in the intimal cells, their complete disappearance in places, the fibrino-cellular constitution of the peripheral portions of the thrombus, and the occurrence of irregular masses of red thrombus in the more central parts—would indicate that one had to do with an acute type of endarteritis with sequential thrombosis. The finding of gonococci in this situation points to that organism as the causal factor in the production of the initial lesion of the arterial wall.

As regards the method of infection two possibilities suggest themselves: (1) infection of small branches, possibly prostatic, of the internal iliac arteries and the development of an ascending gonorrhœal thrombo-arteritis; or (2) infection of the intima of the common iliac arteries by organisms present in the general circulation. The former possibility is difficult of acceptance in that it involves an ascending thrombo-arteritis against the strong

blood stream; the second, receiving some measure of credence from the fact that the aortic bifurcation and the commencement of the common iliac arteries are commonly early situations for the appearance of the intimal lesions of atheroma, seems the more probable but leaves the ultimate distribution of the thrombosis somewhat ambiguous. Although no cultural examination of the blood was undertaken the clinical manifestations in themselves afford strong evidence of the existence of a gonorrhœal septicæmia, and of this the thrombosis must be regarded as a local complication.

Manchester.

A NEW SILVER SALT IN THE TREATMENT OF GONORRHŒA.

BY J. S. PURDY, M.B., C.M. ABERD., D.P.H. CANTAB.,
RESIDENT SURGEON TO THE LONDON LOCK HOSPITAL.

DURING the last nine months I have had an opportunity of contrasting the results of different methods, or rather variations in the usual method, of the treatment of gonorrhœa. With each and every treatment I have seen good results. With each and every treatment I have seen cases which showed little improvement. On referring to the records of cases at the Lock Hospital, whilst there has been little or no change in the routine of treatment it is worthy of note that as regards the number and severity of complications there has been a distinct improvement. Of course, in reviewing several thousands of cases one can only speak in generalities. In comparing the effects of different remedies one must remember the different conditions for which they are applied. Thus, a method or remedy which gives excellent results in acute anterior urethritis may be quite useless and even harmful in cases of posterior urethritis. Certainly some cases of the latter condition may occur, not in spite of, but on account of, the treatment in the first phase of the disease. It is to avoid doing a possible harm where there is just a probability of not doing much good that some surgeons prefer not to interfere locally in the treatment of acute anterior urethritis. Others do not go so far as always to taboo local treatment. Preferring to reserve more active local measures until the discharge has been diminished they commence with the administration of balsamics, of which pulvis cubebæ seems to be with them the most popular. It is only when one comes to look at the results in a special hospital with several thousands of cases, that one is struck with the fact that the best results in the aggregate have been obtained by a combination of medicinal and local treatment. I must confess that during the earlier months of my work here I was inclined to ascribe the best results to treatment simply with pulvis cubebæ (two drachms three times a day after food in a tumblerful of water). When in addition the bowels were freely opened with saline laxatives it was not uncommon to have patients reporting that the discharge had ceased in a fortnight. The presence of "floaters" in the urine, however, indicated a continuance of treatment. Though cases remained free from obvious discharge for three weeks the persistence of flocculi in the urine, together with the frequency of relapses, showed that to secure the best results in this condition something more was required than mere medicinal treatment.

On going into the cases of ordinary acute anterior gonorrhœal urethritis treated with resin of copaiba or sandalwood oil, together with injections of sulphate, sulphocarbolate or permanganate of zinc (two grains to the ounce) one found that once the discharge had ceased "floaters" more speedily disappeared from the urine and a permanent cure was more frequently obtained. Certainly relapses were comparatively infrequent as compared with those cases which had received no local treatment. The usual routine was to continue the injections for one week after the cessation of the discharge, gradually reducing the strength by the addition of warm water. Medicinal treatment was continued for at least two weeks after that. As a rule when this was carried out, the restrictions as to total abstinence being rigidly observed, there was no return of the discharge, certainly not of the patient for treatment (so frequent an occurrence when medicine only was given). To effect a cure in six weeks with this treatment is considered an unusually good result.

With regard to the efficiency of the different constituents of injections there is little to choose among those in ordinary use. As many cases of acute anterior gonorrhœal urethritis are now cured within a month by systematic irrigation, for urethral injections to maintain a reputation for efficiency and rapidity it will be necessary to show that similar results can be obtained by this method, which is simpler and can be carried out by the patient himself. It has long been recognised that if in the treatment of gonorrhœa we could introduce into the urethra some solution which would inhibit or even destroy the viability of the gonococcus and at the same time cause no injury to the delicate mucosa we should practically have solved the question as to the most efficient remedy in the local treatment of gonorrhœa. Such an injection, whilst killing the gonococcus *in situ*, must at the same time not aggravate the local inflammatory condition. A suspicion never ought to arise in the event of sequelæ, such as strictures, that the caustic action of the injection may have been a factor in their origin. Injections in ordinary use when sufficiently strong to act as antiseptics are also caustics. When not sufficiently strong to be caustic their antiseptic powers are only slight.

If it were possible to test the bactericidal properties of these remedies, as regards the gonococcus, in the laboratory by direct experiment some definite information might be obtained, but as man is the obligatory host for the gonococcus our means of estimating their value is limited to clinical observations of the results of treatment of the disease in man. As antiseptics for destroying, or disinfectants for inhibiting the growth of, other organisms, such as the pyogenic cocci, more easy of cultivation for experiment in the laboratory, it is known that in the strength used for urethral injections the ordinary sulphates have little power. The solution which in former days gave most promise as a urethral antiseptic was silver nitrate, but even in the strength of two grains to the ounce this salt cannot be used with impunity owing to its caustic action. As the gonococcus may be said to have an intracellular habitat and is found in the submucosa it is necessary for the application to penetrate to that layer.

The introduction of salts of silver in organic combination marked a distinct advance in the treatment of gonorrhœa by injections. But even protargol, which contains only 8 per cent. of silver, cannot be used without discomfort and even damage to the mucous membrane in a strength above 2·5 per cent. Of course, one cannot but admit that it is possible to effect the destruction of the gonococcus with a limited amount of damage to the urethra which is reparable. It was soon evident that the limitations of protargol, though not so quickly reached, were in the main those of its predecessors. The synthetical preparation of another proteid salt containing 30 per cent. of silver suggested a more potent bactericide. This salt in a solution of 5 per cent. was said to cause no pain when applied to the conjunctiva. It was shown to possess high germicidal and penetrating properties. Ophthalmic surgeons spoke highly of it in the treatment of gonorrhœal conjunctivitis. On being injected into the urethra it was shown to be non-irritating in strengths of solution much higher than in the case of those salts in ordinary use in the treatment of gonorrhœa. This salt—known as argyrol—is a combination of silver with a proteid extracted from wheat. It is very soluble in water. Unlike inorganic silver salts it neither coagulates albumin nor precipitates chlorides. An extensive trial of this salt in the United States in the treatment of gonorrhœa has established its claim to recognition. It has also found many advocates in Germany. One is sometimes just a little dubious of remedies which have originated in the United States, sometimes unjustly so, as in this instance. There is sometimes, however, just a little suspicion, to say the least, of exaggeration in the way some preparations have had their virtues vaunted and boomed. But when authorities like Chetwood, Keyes, Martin, and Christian join in their testimony as to the good results of treatment with argyrol one must at least grant it a fair trial. Christian[1] of Philadelphia gave an account

[1] Medical Record, vol. lxii., 1902

last year of 49 cases of which a complete record had been kept and the discharge microscopically examined. The direct effect upon the amount of the discharge was as follows: Prompt cessation in 31 cases; more gradual reduction in 14 cases; and very little in three cases. Gonococci disappeared in two days in four cases; in four days in eight cases; in six days in eight cases; in eight days in six cases; in ten days in ten cases; in 14 days in eight cases; and persisted over three weeks in five cases. Thus in 43 cases out of 49 gonococci completely disappeared from the discharge within two weeks. With regard to the duration of the disease it was found that nine cases were cured in two weeks, 17 cases in three weeks, seven cases in six weeks, and three cases in eight weeks.

Swinburne[2] of New York reported the results of treatment in 350 cases of gonorrhœa in all stages of the disease. He sums up his results thus: "This drug has decided gonococcidal powers; it has a decided effect in reducing and allaying the inflammation of the disease; it can be used safely in almost any strength and at any stage of the disease. I have not seen any unpleasant symptoms due to the use of the drug." (In some cases a solution of 20 per cent. argyrol was used.)

In June and July of the present year a few cases of gonorrhœa treated at the Lock Hospital with injections of argyrol, combined with the internal administration of resin of copaiba, gave results sufficiently good to suggest a further trial. As a test of efficiency the effects of injections were observed without any medicinal treatment other than some simple saline aperient. A case of gonorrhœal acute anterior urethritis (No. 4405 of the out-patient department), treated first on Sept. 2nd for a discharge of four days' duration with copaiba and injections of zinc sulphate, reported slight improvement at the end of a week. A film showed gonococci in the discharge on Sept. 9th. From that date no medicine was given. Injections thrice daily of a 5 per cent. solution of argyrol was the sole treatment. The urethra having been washed out with warm water, the injection was held in the urethra for five minutes. On Sept. 16th this patient reported that after using the injection for two days the discharge had ceased. Flocculi were, however, seen in the urine. A film of the deposit, obtained by allowing the urine to stand over night in a tall cylindrical vessel, showed gonococci still present. On the 30th the patient reported that there had been no return of the discharge even after taking beer. No "floaters" were seen in the urine. No gonococci were found.

Another case in which argyrol was the only treatment was that of a man, admitted as an in-patient with a discharge of five weeks' duration. In this case I was able to make bacterioscopic examinations daily. On Oct. 29th he commenced injections of argyrol, 5 per cent., every two hours. The urethra before each injection was washed out with a weak solution of boric acid. Two drachms of argyrol solution were used at each injection and retained five minutes in the urethra. Next morning after seven injections there was no visible discharge. "Floaters" were, however, present in the urine and gonococci were found. On Nov. 5th the urine was clear. Thus after seven days' treatment this patient was discharged. He returned to work and has had no relapse, although injections were only continued twice a day for a week after he left the hospital.

On Nov. 6th another in-patient with a discharge of 14 days' duration was put on argyrol. After three days' treatment the discharge quite disappeared. Unfortunately, as soon as the discharge ceased the patient left the hospital and I have heard nothing further as to this case.

The next patient treated indoors with argyrol was irrigated with a solution of 1 in 2000. This was a case of gonorrhœal rheumatism with a chronic gleety discharge which had not responded to other treatment for four months. He was admitted on Nov. 22nd; his urine was quite normal by the 29th.

The last patient treated in hospital had a gonorrhœal discharge (a third attack) of two months' duration. After two days of argyrol injections there was no visible discharge. This man's urine, however, did not become clear and free from flocculi until after 26 days' treatment with argyrol combined later with internal administration of cubebs and salol, followed up with liquor ferri perchloridi.

Another case, No. 997 of the out-patients, worthy of special mention is that of a patient who first came under treatment at the Lock Hospital on August 18th with a gonorrhœal discharge which had lasted "off and on" for two years. This man having contracted the disease in America had been treated at Chicago and also by residence at the hot springs, Arkansas. He was put on a 10 per cent. solution of argyrol on Nov. 3rd. A fortnight later he reported the cessation of the discharge after one week's treatment by injections combined with sandal-wood oil. Another case was that of an out-patient (No. 950) who had been treated from August 31st until Oct. 21st with copaiba and injections of sulphate of zinc. 16 days' treatment with argyrol stopped the discharge, of which there has not been a return up to the present date (Dec. 7th). In six out of other ten cases treated with argyrol I have seen excellent results following an early stoppage of discharge.

In five out of seven cases of acute anterior urethritis, where treatment was commenced early in first attacks, a cure was practically assured within a month. By a cure I mean that the urine was clear, normal, and free from gonococci, and that after discontinuing treatment for six weeks there was no relapse. The cases which gave no improvement were all cases of chronic gleet in men who had become *habitués* of the hospital and in whom it was tried as a forlorn hope. These cases had responded to no previous treatment and certainly did not come under the category of acute anterior urethritis.

It is claimed by our American *confrères*, who have published such convincing proof of the efficacy of this salt in the treatment of gonorrhœa, that its superiority over other silver preparations as a bactericide lies in its high percentage of silver. Whether this is capable of explanation by the theory of ionisation is a question for a chemical physicist. In support of the statement that its effect on the mucous membrane is bland and non-irritating patients told me that after using argyrol pain on micturition ceased. They expressed a preference for this injection when others had been used previously. I have seen no complications during its use. Chordee had not to be treated in any case in which argyrol was used. The only objection to the use of this salt which has come under my notice is its cost, which certainly prohibits its extensive use in hospital and dispensary practice, where the more standard remedies give sufficiently good results at a very small outlay. Like other silver preparations it causes stains on linen and underclothing. These are, however, easily removed by a solution of iodide of potassium and warm water. With regard to rapidity of action and permanency of cure, however, I have seen no results from other injections which equal or even approach some obtained by argyrol. It may be of interest to mention that I have seen this salt used with benefit in a solution of 50 per cent. for tertiary syphilitic ulcers and syphilitic lesions of the mucous membrane of the tongue, mouth, and nose.

With regard to posterior urethritis the method of treatment which seems to give most chance of success is one of intravesical irrigation. The technique may be that known as Janet's, with or without the modifications of apparatus introduced by Valentine or Chetwood. For those who, like myself, do not care for complicated apparatus an ordinary douche tin (shaped like an inverted cone), an indiarubber tube five feet long, an ordinary burette clip, and a glass nozzle give very good results. That many complications are said to have been caused or aggravated by this treatment is an allegation to which my attention has been often drawn. In the only case which has so far come under my notice, if the epididymitis could honestly have been ascribed to the treatment, it was rather carelessness in manipulation than the method itself which was to blame. Certainly one would hesitate to allow the average patient to experiment on himself with this treatment. However, I am inclined to think that with care in use and a simplifying of the complicated apparatus, often advocated but seldom seen in this country, this method is destined gradually to supersede older methods of treatment, many of which, except in the hands of the most skilled in urogenitary practice, only tend to aggravate a condition difficult to treat successfully at any time. However good the results from local treatment one must continue medicinal treatment. As far as I have been able to judge from the results at the London Lock Hospital pulvis cubebæ, resin of copaiba, and sandal-wood oil all act equally well.

[2] Ibid., October 1902.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

THE AFTER-HISTORY OF A CASE OF EXTRA-GENITAL SYPHILIS; CHANCRE AT THE INNER CANTHUS; INTERSTITIAL KERATITIS IN THE PATIENT AND IN ONE OF HER CHILDREN.

BY SIMEON SNELL, F.R.C.S.EDIN., L.R.C.P.LOND., M.R.C.S.ENG.,

OPHTHALMIC SURGEON TO THE ROYAL INFIRMARY, AND PROFESSOR OF OPHTHALMOLOGY IN UNIVERSITY COLLEGE, SHEFFIELD.

A YOUNG woman, aged 21 years, came under my notice at the Royal Infirmary, Sheffield, in August, 1882, for a chancre of the inner canthus. Previously she had been a healthy girl. At that time she was a nurse and among the children under her charge was a baby, aged five months, who had had—and, indeed, had at the time of her attendance—a rash on her body, also thrush, a sore nose, and snuffles. The nurse was in the habit of fondling and kissing the child a great deal. The chancre at the inner canthus involved the integument at the commissure and both eyelids and was about the size of a shilling. The gland in front of the ear and the submaxillary glands were indurated. It had begun as a pimple six or seven weeks before she came under observation. On her face was a scanty papular rash; she had sore-throat with slight ulceration of the left tonsil and her hair was falling out. Later she suffered from mucous tubercles on the vulva. (The case was recorded in vol. iii. of the Transactions of the Ophthalmological Society of the United Kingdom.) At the time of inoculation the patient was engaged to be married and it had been intended that the marriage should take place immediately. She was advised to defer it. About ten years later I again saw the patient and found that in consequence of what was said to her the marriage had been postponed, but only for nine months. She had had six children and never until the last time had she gone to full time with them. The first child was born at seven months, the second at eight months, the next three births were also premature, and there was a miscarriage between the fourth and fifth births. The sixth child was healthy until she was about ten months old, when she suffered from convulsions and she had since then been paralysed on the left side. There had been no subsequent pregnancies. The patient herself was well and was by no means as old-looking as many at her age would be. Beyond an attack of rheumatic fever her health had been good. The healing of the chancre had left some epiphora, but beyond that to the casual observer it had occasioned but little alteration. There was no evidence of the husband having suffered at all from syphilis.

The infant who had occasioned the inoculation was brought to me in 1889 in consequence of her suffering from interstitial keratitis. The child had an almost typical appearance of face, with crushed-in nose and Hutchinson's teeth, and she later became afflicted with the deafness met with in cases of inherited specific disease. The history of syphilis in the father (then deceased) was complete and the mother was syphilised before she became pregnant with this child. The father died in 1885 and there were no children subsequently to the one specially mentioned.

Two or three years ago one of the children of the original patient, a boy, aged nine years, came under treatment for interstitial corneitis. The condition occurred first in one eye and subsequently the other eye became similarly affected.

At the latter end of March of the present year (1903) the original patient herself came to me with typical interstitial keratitis in the left eye from which she has since recovered. She gave the following history with regard to her children. She had had two miscarriages, seven stillborn children, and four children born alive. There were, as already mentioned, five still-born children before one was born alive. This last, a girl, is now aged 14 years. Of the children born alive, one died when eight weeks old, another is paralysed on one side, a third is the one mentioned above as having been under treatment for keratitis, and the fourth is healthy.

The above case is an interesting one for many reasons among which are the following: (1) the situation of the chancre; (2) the characteristic history of the patient's children; (3) the fact that one of the children came under treatment for typical interstitial keratitis; and (4) the circumstance that the patient herself suffered from interstitial keratitis which is only rarely met with in instances of acquired syphilis and which is additionally interesting in this case from the complete history that can be recorded and from the late appearance of the keratitis.

Sheffield.

NOTE ON THE SIMULTANEOUS OCCURRENCE OF TWO ACUTELY DEVELOPED CUTANEOUS LESIONS.

BY H. W. SYERS, M.A., M.D. CANTAB.

A FEW weeks ago a boy aged nine years was brought to me in the out-patient room of the Great Northern Central Hospital suffering from a rash on the legs of two or three days' standing. He was a well-grown boy and complained of much pain and tenderness over the front of the tibiæ. As I anticipated, the malady proved to be erythema nodosum, and a severe form of the affection, as both shins were practically covered with the lesions. I was then informed that there was yet another rash of a few days' duration situated on the front of the abdomen and extending round the waist. Examination revealed the presence of numerous dark red papules in the locality mentioned, each of about the size of a pin's head. The rash was not present elsewhere. Some slight irritation was complained of, but otherwise this rash has been unattended with symptoms. It was not possible to form an accurate diagnosis as to the nature of the second rash and I contented myself with treating the erythema nodosum.

Three days later I again saw the patient. The erythema was in process of resolution but the spots on the abdomen and around the waist were much more numerous and presented the same characters as before. He came again a week after his first attendance and now the nature of the second rash was perfectly obvious: it was psoriasis. Many of the spots were covered with white scales and not a few had run together into sheets which were not, however, of any great size. At this time the erythema nodosum had practically died away but much pigmentation was left. The boy is now going through a perfectly typical attack of psoriasis which is fairly acute, but the elbows and knees are not, curiously enough, in any way affected.

I may add that in this case, as in many others I have seen, there was no history of rheumatism even of the typically children's form of that malady, and the heart was perfectly sound. Neither had the child ever suffered from chorea. There had been no previous attack either of psoriasis or of erythema nodosum.

In my experience the case is unique. I have never seen the simultaneous development of two distinct cutaneous affections such as those which occurred in this case. A patient may be suffering from cutaneous syphilis and may then contract scabies and the two eruptions may co-exist. In the same way eczema may be complicated with other maladies, but I have never before seen the rashes of psoriasis and of erythema nodosum co-existing in the same patient.

Wimpole-street, W.

A CASE OF PERSISTENT SUPERFICIAL NASAL HYPERÆMIA IN A MAN, AGED 21 YEARS, CURED BY REMOVAL OF ADENOIDS.

BY V. H. WYATT WINGRAVE, M.D. DURH., M.R.C.S. ENG.,

PHYSICIAN TO THE CENTRAL LONDON THROAT AND EAR HOSPITAL.

THE patient complained of intense and persistent redness of his nose of two years' duration. The onset was gradual and he could not associate it with any particular cause. He was a teetotaler and a very moderate smoker and he enjoyed excellent health. Nasal respiration was free and nothing abnormal was to be seen by anterior rhinoscopy. The tip, the alæ, and quite two-thirds

of the nose were of an intensely vivid red colour, somewhat shiny, but not swollen, tender, or painful. Being subject to indigestion the patient was forbidden tea and was treated with alkaline tonics and saline aperients. After two months' treatment he showed no improvement, but a prominence of the supranasal vein being noticed the nasopharynx was examined by the mirror and finger, revealing a large crop of adenoids. Their removal was soon followed by diminished redness of the nose, the prominent veins disappeared, and in one month the organ became normal in appearance and it remains so.

The case is interesting in so far that it affords a striking illustration of the close relationship between the supranasal vein and adenoids during a period of life in which neither are commonly found and further increases the already long list of troubles due to neglected adenoids. The subject is of further interest with regard to its pathology which admits of several interpretations. First there is the mechanical, in so far that the adenoids themselves directly interfere with venous return, thereby producing the prominent supranasal venous arch in infants, so often the subject of superstitious dread. Further, again, their interference with breathing leads to a general increase of venous pressure which the vessels in question specially show. A second view is that the adenoids are responsible indirectly by causing a reflex inhibition of a local vaso-motor influence. This may be the interpretation in the present instance, while the first view will be more applicable to children.

Devonshire-street, W.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

Discussion on Functional Albuminuria.

A MEETING of this society was held on Dec. 14th, Dr. F. DE HAVILLAND HALL, the President, being in the chair.

The PRESIDENT opened a discussion on Functional Albuminuria. He began by pointing out that it did not lie in the power of hospital physicians to do much to settle the question as to the ultimate fate of individuals suffering from intermittent albuminuria but that it was the general practitioner, who had the opportunity of knowing the family and personal history of their patients, to whom they must look for assistance. The late Sir George Johnson and Dr. Clement Dukes were quoted in favour of the view that albuminuria was always pathological and that the term "functional albuminuria" was hardly justifiable. Still greater exception was taken to the term "albuminuria of adolescents," as cases of intermittent albuminuria were met with at all ages and in both sexes. It was pointed out that cyclic, the term suggested by Dr. F. W. Pavy, was not a good name to apply to the condition, as it would seem to suggest that the abnormal condition recurred in regular cycles irrespective of outside conditions. Though Sir George Johnson had previously described the condition the attention of the profession was first focussed on the occurrence of intermittent albuminuria by a paper contributed to the Guy's Hospital Reports in 1878 by the late Dr. Walter Moxon who brought forward a series of 19 cases. Dr. Moxon concluded his paper with the following remarks: "The occurrence of the albuminuria at a period of life when the sexual system is completing its development, and, further, when its aptitudes are not always under normal control, may raise questions of causation of a kind difficult to obtain certain answers to. Starting so near each other and with so much of close relation in their development, and with common rights of way, so to speak, over not always normally governed apparatus, disturbances of the sexual system might be allowed as likely to reflect disturbances on to the urinary system." The condition designated by Dr. Moxon as remittent albuminuria had also been termed orthostatic or postural albuminuria. Its characteristic feature was that albumin was absent on rising in the morning but appeared after breakfast. In the later part of the day it might again be absent. It had been attributed to a want of tone in the vascular system. The effect of meals on albuminuria varied. In some of the so-called cases of functional albuminuria the amount of albumin was usually not influenced by diet, but in other cases the urine lost all trace of albumin under the influence of an exclusive milk diet and again became albuminous after a meal of solid food. On the other hand, there was another class of case in which exercise and even the erect position of the body had more influence than food in the production of albuminuria. Functional albuminuria might occur at any age but it was most frequently met with at the period of adolescence. It was more common in males than in females. It was usually met with in persons who supposed themselves to be in perfect health, but in some cases languor and palpitations were complained of. The presence of the albumin was often detected in systematic examination for life assurance or previously to entry into the services. The need of a careful microscopical examination of the centrifugalised deposit in order to exclude nephritis was insisted on. As regards the causes of albuminuria in the apparently healthy the following were mentioned: an excessively nitrogenous diet (eggs for example), cold bathing, and violent exercise (such as playing football, bicycling, riding, running, or marching). The sexual factor was also considered. The opinion was expressed that chemistry would yet throw more light on the subject of albuminuria and it was thought that one of the by-paths to be investigated was the state of the blood.

Dr. J. ROSE BRADFORD defined functional albuminuria as the occurrence of albuminuria in the apparently healthy. He then discussed as possible causes of the condition latent renal disease of an organic character, the subsidence or onset of renal disease, and accidental albuminuria due to spermatorrhœa or the presence of a discharge such as gleet. It might also be associated with diet, posture, exercise, fatigue, or bathing. Posture was the most important of these. The only clearly established pathological cause of albuminuria was some toxic agent—metallic poisons, ptomaines, and bacterial toxins, substances present in the blood of all animals. But these were obviously absent in most cases of functional albuminuria. Reflex vaso-motor mechanisms of a complex character were called into play when the body assumed the upright position. Posture was probably the main cause of functional albuminuria. Postural variation in the amount of albumin was observed even in organic albuminuria.

Dr. SAMUEL WEST concurred with the previous speaker in defining functional albuminuria as albuminuria in the apparently healthy. Albuminuria was never physiological in the sense that it could be shown by the ordinary tests on the urine of any and every one. By delicate tests and repeated examination the percentage of apparently healthy persons affected with albuminuria might reach as high as 40, but in half of these it was nucleo-albumin and in another quarter the trace of albumin was very minute. Thus 10 per cent. were left in which albumin could be found by testing in the ordinary way. The frequency of functional albuminuria varied greatly with age, being fairly high in children, and rising gradually from the age of 25 throughout the rest of life. Among schoolboys and young adults there were two groups—in one the subjects were florid, vigorous, with good or high pulse tension; in the other, pale, flabby, with low pulse tension. These groups probably differed in pathology and prognosis. Of these boys most got well; in some the albumin persisted without other sign of ill-health. In a few signs of renal disease developed. There was no reason in either of these cases to refer the albuminuria to sexual development, still less to masturbation. Statistics proved that functional albuminuria increased the risk to life, especially as age advanced. Throughout life the relation of these cases to granular kidney was important, and thus the association of albuminuria with arterial thickening was very suspicious even in the young. So far as life assurance was concerned the rule was correct—above 40 to reject, between 30 and 40 to increase the premium, between 20 and 30 to make a substantial addition, and to reject all cases with thickened arteries as well as albuminuria. He arrived at the conclusion that functional albuminuria was, strictly speaking, never physiological but always pathological, though not always renal.

Dr. PAVY demurred to the use of the term "physiological," though the term "functional" as applied to albuminuria might be appropriate, just as there might be functional disease of the stomach as distinguished from structural disease. He could not regard functional albuminuria as an incipient stage of organic renal disease. He had watched cases for upwards of 15 years. Posture was a prominent factor in causation of the condition. Diet did not, in his

experience, play an important part; excessive exercise, however, was important as was over brain work. An unstable vascular system was often present and in such cases fully explained the occurrence of functional albuminuria.

Dr. A. E. GARROD recalled the circumstance that Dr. K. A. H. Mörner (Stockholm) had shown that nucleo-albumin formed by a combination of serum albumin with chondroitin-sulphuric acid was a normal constituent of the urine. Dr. Garrod also referred to oxaluria as a definite cause in his experience of transient albuminuria and even hæmaturia might occur in some of such cases as the result of a surfeit of rhubarb or strawberries. In short, the proteid-retaining mechanism of the kidneys, whatever it was, was a lax one and many of the albumoses easily slipped through. Consequently a very slight departure from normal might easily allow the transudation of serum albumin. The prognosis of functional albuminuria was certainly favourable in a great many cases and Dr. Garrod doubted if it ever developed into granular kidney or other serious organic disease. Nevertheless, local or partial disease of one or other kidney was a possible cause which should be borne in mind.

Mr. H. G. ARMSTRONG had studied the condition during 20 years at Wellington College. He would divide functional albuminuria into three varieties: (1) occasional, which was an extremely frequent condition; (2) intermittent, which occurred in from 10 to 15 per cent. of the boys; and (3) permanent, of which kind he could only remember about six cases. Mr. Armstrong did not connect the condition with masturbation. Certain symptoms might be associated with functional albuminuria, and especially fainting; and in his view such cases were often emotional in origin, improvement taking place when the patients were allowed to work and to play games.

CLINICAL SOCIETY OF LONDON.

Congenital Narrowness of the Pyloric Orifice a Cause of Chronic Gastric Disease in the Adult: Seven Cases Successfully Treated by Operation.—Gastro-enterostomy for Simple Ulcer of the Stomach and Duodenum.

A MEETING of this society was held on Dec. 11th, Dr. FREDERICK TAYLOR, the President, being in the chair.

Mr. A. ERNEST MAYLARD (Glasgow) read a paper on Congenital Narrowness of the Pyloric Orifice a Cause of Chronic Gastric Disease in the Adult, illustrated by seven cases successfully treated by operation. In operating upon several cases of chronic gastric disease a very typical form of narrowing of the pyloric orifice had been observed. While there was nothing externally to be noted, on internal examination a uniform sharp, ring-like constriction of the pylorus was found to exist. In some cases the ring was too narrow to admit the insertion of the apex of the finger. The construction put upon this condition was that it resulted from an over-development of the pyloric valve, which normally gave an orifice of from 12 to 15 millimetres in diameter. By excessive reduplication of the mucous membrane the valve might measure from two to ten millimetres. The condition was not one to be confounded with the more generally known congenital stenosis of infancy, where there was always hypertrophy in addition to the constriction. The patients were usually young adults who had suffered for years from gradually increasing gastric symptoms, quite indefinite at the onset but becoming more distinct later, and sometimes definitely suggesting pyloric obstruction. Dieting and medicinal treatment usually produced marked improvement but a return to the usual mode of living caused a recrudescence of all the symptoms. Gastric dilatation was sometimes present and was usually found to depend upon any temporary deviation from, or indiscretion in, the needful careful attention to diet. The history of seven cases was given. The patients were of the female sex, the ages being 20, 21, 27, 27, 27, 31, and 46 years. In all the symptoms had commenced insidiously and were at first of a simple dyspeptic character but afterwards showed more marked gastric disturbances. In five out of the seven cases the patients were in good social position and in two they were members of very healthy families. All were under the normal standard in stature and build but presented otherwise no defective physical or constitutional features except such as were dependent upon the gastric condition. In two the symptoms had existed as long as could be remembered. In all treatment had been tried by several medical men by various measures, usually with temporary improvement, but never with any permanently good result. Operation had been undertaken in all cases with the object of giving the stomach physiological rest, the chronicity of the complaint and its intractableness to all conservative treatment being considered a sufficient reason for operation. Posterior gastro-jejunostomy had been carried out in all. Improvement took place almost at once in some instances but not till a few months afterwards in others. Four out of the seven patients were at the end of a year's time practically cured of a condition that had existed for years. Two were still improving and one only recently operated upon was rapidly progressing favourably. In conclusion, Mr. Maylard said that he thought the condition of congenital narrowness of the pyloric orifice a by no means uncommon one. In its comparatively slighter forms it possibly accounted for many cases of gastric irritability in middle age or young adult life, and should always be considered as a not unlikely cause in young adults in whom no other explanation could be given for the chronicity and intractableness of the dyspeptic symptoms. The symptoms were always temporarily relieved by dieting. Of the three operations which might be practised for its relief—pyloroplasty, pylorodiosis, and gastro-jejunostomy—the last was considered the best. It had been employed in all the cases narrated and when executed with due regard to the normal anatomical relation of the stomach to the first part of the jejunum and the proper function of these viscera it gave the best possible results.

Mr. B. G. A. MOYNIHAN (Leeds) read a paper on 100 Cases of Gastro enterostomy for Simple Ulcer of the Stomach or Duodenum. The patients had been operated upon up to Oct. 1st, 1903. Two cases among them had been fatal. 85 patients were operated upon for chronic ulcer with intractable dyspepsia or dilated stomach with one death. 15 patients were operated upon for profuse and recurring hæmorrhage with one death. There were 56 females and 44 males. The youngest patient, a female, was aged 17 years; the two oldest, a male and a female, were each 62 years. The average age was 35 years. In ten cases the induration around a chronic ulcer was so marked that the presence of a "tumour" was recorded. In 58 cases the presence of a single ulcer or of the scar of a single ulcer was noted. In seven the ulcers were described as being multiple. Duodenal ulcer was found alone in nine cases, duodenal ulcer with one or more gastric ulcers being present in 13 cases. Hæmorrhage was the immediate and determining cause of operation in 15 cases. In all of these there had been symptoms of stomach troubles for a shorter or longer time before the onset of the bleeding. Several of these patients were in a desperate condition. In all these patients gastro enterostomy alone without the excision of the ulcer was performed; in not one of them was there any trace of renewed bleeding after the operation. Gastric tetany was observed in greater or less severity in five cases. In three it was slight and affected only the hands and forearms and the calf muscles. In two the patients experienced the utmost agony. The importance of oral and gastric antisepsis was emphasised. In 92 of the cases the result of the operation had been from the first as satisfactory as could be wished. Appetite had soon returned and food has been taken in any quantity with relish. All these patients had gained in weight, the gain varying in amount from seven pounds to four and a half stones. In the remaining six cases the after-history had not been so good. In every one of these hyperchlorhydria was pronounced before the operation and had proved a source of pain and inconvenience afterwards. Of the six patients three had improved greatly under medical treatment continued for from three to five months and were now quite well, one was almost well, and two were still under treatment. The last three had all been operated upon within the past eight months.—Dr. H. BATTY SHAW asked whether Mr. Moynihan had known a peptic ulcer to form after the operation of gastro-enterostomy. An American author had shown that it might occur experimentally in dogs.—Mr. J. H. MORGAN remarked on the fact that both these valuable papers came from surgeons practising in the north of Great Britain. Was there anything in the diet to account for this? Mr. Moynihan's result of a 2 per cent. mortality was most satisfactory.—Mr. A. E. J. BARKER had always regarded gastro-enterostomy as by far the best operation for gastric ulcer and the results now laid before the society fully

confirmed this view. As to the cases of pyloric stricture brought forward by Mr. Maylard, the congenital origin of these must remain an open question. Dr. Norman Moore had brought the matter before that society, but the congenital origin of such cases was always a little doubtful. Pyloritis and peripyloritis might cause pyloric constrictions, just as gleet might be followed by urethral spasm and hypertrophy. He considered that suturing was a better method than the employment of mechanical appliances.—Mr. ERNST MICHELS asked Mr. Moynihan what percentage of cases of gastric ulcer were operated on out of the total number seen.—Mr. C. R. KEYSER asked whether the inferior method might not be regarded as better than superior gastro-enterostomy and advocated the employment of a single layer of sutures.—Mr. LEONARD A. BIDWELL, referring to the cases of pyloric stenosis, said that his experience led him to believe that Mr. Maylard's cases were due to repeated spasm of the pylorus of possibly inflammatory origin. There did not appear to him any evidence in support of their congenital origin. As regards Mr. Moynihan's cases, he asked what was their subsequent history and what proportion of them had relapsed.—Dr. H. A. CALEY asked Mr. Moynihan what proportion of his cases had been treated by rectal feeding, diet, and other medicinal measures before operation was resorted to.—Dr. EDMUND CAUTLEY did not think in regard to Mr. Maylard's cases that the narrowness of the pylorus could be definitely stated to be congenital or sufficient to cause the condition of the stomach found. Had there been any stricture he would have expected that there would have been definite hypertrophy of the muscular walls of the stomach adjacent to the pylorus. He asked what Mr. Maylard thought was the natural size of the pylorus and suggested that it varied considerably in different individuals. Possibly the symptoms and the dilatation of the stomach were dependent on gastric conditions arising from unsuitable food or alcohol. In regard to Mr. Moynihan's cases it seemed remarkable that such a large proportion should need operation.—Dr. J. W. RUSSELL (Birmingham) referred to 86 cases of gastric ulcer attended with hæmatemesis. He had traced the after-history of about half of these. Of those so traced about 45 per cent. had suffered no relapse and had remained well, 10 per cent. were subject to periodic relapses, and about 45 per cent. were in a miserable condition with persistent vomiting. These last would be suitable for operation.—Mr. A. PEARCE GOULD congratulated Mr. Moynihan on his success but asked if gastric ulcer did not relapse after operation, narrating one case in which the results of operation had been disappointing. Mr. MAYLARD, in reply, said that his chief reason for considering that his cases were of congenital origin was the extreme regularity of the feeling of the pyloric opening and the fact that thickening was absent. He thought people in good social position were less likely to give way to excesses in unsuitable diet. It was not possible to obtain a trustworthy gauge of the size of the pyloric aperture post mortem.—Mr. MOYNIHAN, in reply, stated that he thought there was hardly anything worse than the bad tea and bread consumed by many northerners. The proportion of cases operated upon to those seen by him had been about 25 per cent. As far as he could judge, the surgeon saw the cases somewhat earlier in the north than in London. That much suffering might be avoided by timely operation he was convinced.

EPIDEMIOLOGICAL SOCIETY.

Sleeping Sickness.

A MEETING of this society was held on Dec. 11th, Dr. B. A. WHITELEGGE, the President, being in the chair.

After the transaction of formal business Dr. LOUIS W. SAMBON, lecturer at the London School of Tropical Medicine, read a paper on Sleeping Sickness. He began by referring to the recent spread of the disease in Africa and specially its extension to the Victoria Nyanza and its islands. He then gave an account of the history of the study of the disease, from the first researches of Winterbottom made exactly 100 years ago to those of Castellani, Bruce, Brumpt, and Manson. As a sequel to the reference made to Castellani's discovery of a trypanosome in sleeping sickness, Dr. Sambon proceeded to give a history of the gradual acquaintance of observers with the genus trypanosoma, mentioning the trypanosomas of surra, nagana, mal de caderas, dourine, and the African gall sickness. He then mentioned the discovery of a trypanosome in man by Nepveu, Ford, and Dutton. He said that as soon as Castellani discovered a trypanosome in sleeping sickness the idea of a fly as the carrier of the infection came very naturally to all those who had any knowledge of trypanosoma disease. The first to publish any definite opinion on the matter, not merely as a hypothesis, but as the outcome of the concurrence of well-established facts, were Brumpt and himself. It would be idle to discuss priority in the matter. He expressed his views in an article on sleeping sickness which was published in the *Journal of Tropical Medicine* on July 1st, 1903. Brumpt's observations were published on July 2nd. However, the idea had come to both simultaneously and independently the day they learnt that a trypanosoma had been discovered in cases of sleeping sickness. Brumpt spoke of glossina morsitans. He (Dr. Sambon) specified a West African species, and more especially glossina palpalis; but he attached no great importance to this because he had books and specimens at hand, while Brumpt was in the wilds of the Congo. Besides various species of the germs, glossina might be capable of transmitting sleeping sickness just as various species of anopheles were able to disseminate sub-tertian fever. Their respective communications did not merely suggest a glossina as the carrier of sleeping sickness because a trypanosoma had been discovered in the disease, and because nagana was known to be disseminated by glossina, but they were chiefly intended to support Castellani's discovery by a number of facts derived from the study of the distribution and life-history of tsetse flies on one side and the distribution and epidemiology of sleeping sickness on the other. At first Castellani's discovery met with little favour in this country. At the last meeting of the British Medical Association at Swansea he was the only one to uphold a causal relationship between Castellani's trypanosome and sleeping sickness. His opinion was based on the analogy between the course, symptoms and anatomical features of sleeping sickness and of the various trypanosoma diseases of cattle generally considered and, more specially, on the striking connexion which existed between the peculiar distribution of sleeping sickness and that of tsetse flies. Dr. Sambon stated quite clearly that he could see no morphological distinction between Castellani's trypanosome and trypanosoma Gambiense. He pointed out that the so-called posterior extremity of the trypanosome was in reality its anterior extremity and that view had been endorsed by Professor Blumhard, Dr. Geart, and others. He expressed the opinion that the glossina did not merely carry the trypanosomes as suggested by Colonel Bruce, but played the part of an alternative host. Considering the very remarkable mode of development which obtained in tsetse flies he further suggested as a working hypothesis that nagana and sleeping sickness might be transmitted not directly by the fly that sucks the blood of infected animals, but by its progeny as was known to be the case in the transmission of red-water fever by rhipicephalus annulatus and in the transmission of the malignant jaundice of dogs by hæmaphysalis leachi. After minutely discussing the two reports on sleeping sickness by Colonel Bruce and Dr. Nabarro, Dr. Sambon criticised the former's experiments with regard to the transmission of this disease by tsetse flies. Other experiments were made to determine whether the Uganda tsetse fly (glossina palpalis) did carry sleeping sickness. Five monkeys were submitted to the bites of tsetse flies. The flies were previously fed on cases of sleeping sickness and then on the monkeys eight, 24, and 48 hours after. Hundreds of flies were used in each experiment and after a period of about two months trypanosomes were found in the blood of the animals experimented upon. A second set of experiments with flies was then carried out to ascertain whether tsetse flies freshly caught in the vicinity of Entebbe did carry the trypanosomes of sleeping sickness. Three monkeys were submitted to the bite of large numbers of flies caught in the vicinity of the hut tax labourers' camp in Entebbe. All these monkeys showed trypanosomes in their blood after a period averaging between a fortnight and a month. The experiments made by the commissioners with tsetse flies collected at Entebbe and fed on susceptible monkeys after being fed on cases of sleeping sickness had been almost unanimously accepted as proving that the trypanosomes of sleeping sickness were transmitted from the sick to the healthy by the glossina palpalis and

that the fly carried the parasites much in the same way as the vaccinating needle carried the infection of vaccinia from child to child. He did not doubt in the least that the glossina palpalis was a carrier of sleeping sickness; indeed, he had been the first to suggest it. But to his mind the experiments made by Colonel Bruce and his colleagues did not prove the point. In the first place he (Dr. Sambon) did not consider it proved that the fly carried the infection by mere transference. The experiments made by Colonel Bruce with glossina pallidipes and nagana, those made by Rogers with various tabanidæ and surra, and those made by Theiler with hippoboscidæ and gall-sickness only proved that a fly disturbed while sucking the blood of a trypanosoma-infected animal might convey the disease to a healthy animal by means of its blood-soiled proboscis, just as malaria might be conveyed by a needle soiled with infected blood. But this mode of transmission did not seem to be the usual one. It did not explain why nagana was carried exclusively by a glossina and not by the many other blood-sucking animals which attacked horses and cattle outside the fly-belts. It did not explain why sleeping sickness was likewise confined to the tsetse zone and not communicated by the blood-sucking insects and acaridæ which swarmed in the huts of the natives. But there were many other objections against the commissioners' experiments at Entebbe. Those gentlemen did not rear their flies in the laboratory, they collected them at random, and they knew for certain that these flies were already infected because in the second set of experiments they also infected the monkeys they were made to bite soon after being caught and without being previously fed on cases of sleeping sickness. That the trypanosomes which they conveyed were those of sleeping sickness was not in any way proved; on the contrary, the commissioners informed them that they had examined some oxen at Entebbe and found in the blood of those animals a trypanosome which was neither trypanosoma Brucei nor trypanosoma Gambiense. And who could say how many other species of trypanosomes were to be found in the blood of the mammals, birds, batrachians, and fish of Uganda. A very striking fact was that whilst the monkeys bitten by the flies not fed on cases of sleeping sickness contracted the infection within two or three weeks, those bitten by flies fed previously on cases of sleeping sickness did not contract it until after about eight weeks. That proved that the flies did not get the parasite from the blood of the sleeping sickness patients who, as a rule, had hardly any in their peripheral circulation, but that on biting those patients they emptied themselves of some of the parasites they were carrying. Those experiments would have to be repeated in a thoroughly scientific way. Meanwhile he believed that the bond of association between Castellani's trypanosome and glossina palpalis was a far more intimate one. Lastly, Dr. Sambon referred to Sir Patrick's Manson's case of trypanosoma fever in a white woman. That case terminated with the characteristic symptoms of sleeping sickness, thus proving that trypanosoma fever was only an early stage of sleeping sickness and that a trypanosome was the cause of that deadly African scourge.

Sir PATRICK MANSON, having been asked by the President to open a discussion on the paper, said that he felt rather oppressed with a sense of responsibility in doing so. He could not but feel that the discussion was one of very great importance not only to Africa, where really it was a subject of primary importance, but to pathology in general, for the entrance of that protozoon into the field of pathology promised to give new light in places where darkness formerly obtained, and one must be extremely careful in expressing any view upon a subject just as it began to break upon the medical mind. He was especially pleased with the last part of Dr. Sambon's paper—that in which he expressed the hope that questions of priority would not occupy the meeting. They were always thorny subjects and they led to a good deal of bad feeling and so far as his experience extended never to any general profit. Sometimes on a Sunday he had an opportunity of contemplating the manners and customs of the fowl community, and his observations were generally taken between the morning meal and the afternoon meal when the fowls had picked up the last grain of maize and apparently had no chance of getting more food. But even in the community of fowls of that description some enterprising animal would wander from its fellows and by dint of perseverance would sometimes pick up a lob worm in some corner of its habitation. Almost before one had observed the fact that this fowl had made the discovery one also observed that this fortunate fowl was beset by numerous other fowls who rushed to share the profit. As a result the first fowl was very quickly deprived of its morsel and the second fowl succeeded in taking a little bit, and the third, and the fourth, and the fifth, until after a time it was found that the discovery had become the general property of the community with the result that the owner of the fowls, in the long run, benefited by getting a more wholesome and nutritious egg in the morning. He believed that that was a fair simile as to what happened in the field of discovery. One man got hold of a lob-worm and a hundred men could extract part of the *éclat* perhaps, but in the end the whole world benefited by the discovery. He had learnt a lesson in studying the cause of sleeping sickness. Dr. Sambon had told them already that a good many years ago he (Sir Patrick Manson) had found a peculiar parasite in cases of that disease. In a case that Sir Stephen Mackenzie gave him a chance of examining he found a new species of filaria in the blood. He was very much interested in the subject and he found a new parasite, a parasite which differed from the one that was suspected at the time to be the cause of the disease. Further, he was inclined to jump to the conclusion that the new parasite and the disease had an essential relation to each other. The conclusion seemed natural. As soon as he had made the observation he bethought himself how he should pursue the subject and he sent to Africa for specimens of blood from the natives. He sent 10,000 slides to Africa and got about 300 back. In those 300 a good many specimens came from cases of sleeping sickness and in every case of sleeping sickness he found the filaria perstans. By and by Dr. H. Grattan Guinness brought two cases of sleeping sickness to England for the purpose of studying them and put them at his disposal, and he was very much gratified to find in the blood of those cases also the filaria perstans. With evidence of that sort at his disposal he thought it would be beyond the power of resistance of most human natures to say that filaria perstans was not the cause of sleeping sickness. Thank heaven, he resisted the temptation and said that the filaria perstans was very likely to be the cause. However, after pursuing the subject further, he learnt that the same parasite was found in British Guiana and he was somewhat disappointed, because at that time they had no knowledge of sleeping sickness having visited British Guiana. He wrote to a friend there and asked him if he knew of a case resembling it in British Guiana. Writing back his friend said that a native patient had been brought to him suffering from somnolence from which he had great difficulty in waking him. That seemed to encourage the idea that possibly sleeping sickness might exist there and its existence there would further endorse the possibility that the filaria perstans was the cause of the disease. By and by Dr. G. C. Low and Dr. A. Castellani went out to Uganda from the Royal Society to test the connexion of the filaria perstans with sleeping sickness. Their first reports were distinctly in favour of regarding that parasite as the cause of the disease. In one district they found something like 95 per cent.—he did not know the exact figures—of the natives suffering from sleeping sickness due to filaria perstans infection. Subsequently on extending their observations they made the disconcerting discovery that in another district where sleeping sickness was extensive the filaria perstans was scarcely ever found, thus destroying at one stroke the hypothesis on which he had ventured to think he might derive a little credit. Now he was very glad to disallow any connexion between the filaria perstans and sleeping sickness. But as regarded the connexion of the trypanosoma Gambiense with sleeping sickness he thought they should still bear in mind his experience in connexion with the filaria perstans. His belief was that sleeping sickness was caused by the trypanosoma Gambiense, but he could not say that it had been proved. His belief at one time was that sleeping sickness was caused by the filaria perstans but he could not say then that it had been proved. He still thought there was room for further proof on the subject of the distinct and definite connexion between the trypanosoma Gambiense and sleeping sickness. He believed that that parasite was the cause of the disease but he did not know for certain. A case to which Dr. Sambon referred of a man who died from sleeping sickness was another reason for their belief in the relationship of that parasite to, and its being the cause of, the disease. But even that was not sufficient for the scientific mind. They

could understand that coincidence even in that case might have something to do with the matter. When Dr. Castellani's and Colonel D. Bruce's discoveries were first made public he was extremely sceptical as to the origin and relationship of the two parasites. For this reason: Colonel Bruce distinctly stated that 28 per cent. of the general population of Uganda, apparently healthy people, had got the trypanosoma Gambiense in their blood. Now sleeping sickness was a disease which certainly predisposed the human body to many kinds of parasitic invasion. In consequence of the paralysing effects of the disease and the indifference of the patient to what went on outside him the carriers of parasites (such as flies, fleas, bugs, and the like) might bite him in that condition with impunity. They could understand that a patient affected with the indifference and languor so characteristic of sleeping sickness would be extremely prone to be bitten in that condition and therefore he was just the person who would exhibit the parasite in his blood. In the same way he was specially subject to invasion for the same cause by the filaria perstans. At the same time that evidence was not what would be regarded as satisfying in science. But when that poor lady in whom Dr. C. W. Daniels had found a good many months ago a trypanosoma Gambiense long before she had exhibited the symptom of languor characteristic of sleeping sickness—a parasite which was evidently the initial cause of her disease when on the Congo—when that lady developed it he thought they had much more definite proof than anything supplied from Uganda or elsewhere. There was no opportunity of her being bitten—nor was there any opportunity for subsequent infection following the primary infection—by the animal, whatever it might be, that introduced the poison. Therefore that case, he thought, was one of great importance. It was not complete proof that that parasite was the cause of the disease. Until they had obtained a pure culture of the trypanosoma from her blood the subject was still one on which they should keep an open mind as to the cause of the disease. In his opinion the strong probability was that that parasite was the cause of the disease but he could not say that the point was essentially and conclusively demonstrated as yet. He hoped that the cultivation experiments made lately by two American scientists in the growth of trypanosoma Gambiense in pure culture and also by Colonel Bruce would be confined to the decision of the question. Until the thing was positively decided one way or another he thought that one incurred a certain amount of responsibility and danger in advising anything in the way of extensive public measures with a view of counteracting the influence of the trypanosoma Gambiense in connexion with sleeping sickness. One would be advising extensive public measures on what might be only speculation and that was somewhat dangerous ground for men to go upon who were responsible for conducting public affairs. Therefore he would urge those interested in that question in connexion with parasitic disease to undertake cultivation experiments and then if they found that the pure culture of the trypanosoma Gambiense injected into monkeys or—if anyone was sufficiently self-sacrificing—into the human being in his own person, if they found that that pure culture produced the symptoms of sleeping sickness, then he would say that the thing was practically proved and he would be content. He would like to point out one or two other things in that connexion which were noteworthy. Colonel Bruce had distinctly proved —and his experiments had been repeated in Paris and elsewhere—that certain species of monkeys were susceptible to trypanosoma infection. That being so, was there any proof that the monkeys of Uganda had got sleeping sickness? He did not think that the experiments by Colonel Bruce of injecting the blood and the cerebro-spinal fluid of patients infected with sleeping sickness into monkeys and subsequently injecting blood from a man with trypanosoma fever, but without sleeping sickness, into the blood of monkeys,—he did not think that those experiments were conclusive at all as to the connexion of the trypanosoma with sleeping sickness. Supposing they assumed that sleeping sickness was an independent disease, depending upon a specific germ, then if they injected two specific germs into a monkey they might induce two diseases, say, trypanosoma fever and sleeping sickness. Or supposing they had a patient suffering from plague and at the same time from relapsing fever, and they took a little of his blood in a hypodermic syringe and injected it into another man's veins and it produced two diseases, plague and relapsing fever, and they found the bacillus pestis and the bacillus spirillum, it would not necessarily follow that the one bacillus was the cause of relapsing fever and the other of plague. Neither was it a good sound experiment as exhibiting a definite relationship between the trypanosoma and sleeping sickness. He would like to know from those who had been in Uganda whether the monkeys there were subject to sleeping sickness, or if there was any epidemic of the disease amongst those animals. He would make one more remark. Dr. Sambon had observed that there was a correspondence between the area in which polyadenitis of the negro was noticed and the sleeping sickness area. He did not know whether Dr. Sambon had seen Dr. C. Christy's report, but Dr. Christy asserted that a large area of country in which the natives were extensively affected with polyadenitis was absolutely free from sleeping sickness. In his mind evidently polyadenitis was not associated with the disease.

Professor E. RAY LANKESTER said he would venture, as one who took a great interest in the subject from a natural history point of view, to make a very few remarks. His own interest in the matter began with the study years ago of the trypanosoma which occurred in the blood of the frog and he believed he was the first to state that and to write about it. He doubted whether it really was right—although he saw that a competent naturalist took the opposite view—to call these parasites in mammalinn blood trypanosomas. Might he say that he listened with great pleasure to Sir Patrick Manson's statement which seemed to him to be an extremely interesting account of his views on the subject under discussion and to show a really scientific attitude of mind. Sir Patrick Manson entertained strong presumptive opinions with regard to the filaria perstans but did not commit himself about it. He thought also that Sir Patrick Manson's attitude in regard to the trypanosoma Gambiense was absolutely correct and sound, that was to say, there was strong evidence in favour of the trypanosoma being the cause of sleeping sickness but the question was not what he could call proved. The possibility of another parasite being present in the blood had to be borne in mind. They were getting to know such extraordinarily minute and varied parasites in the blood of the mammalia in tropical countries that they had to be very careful as to the conclusions that they might form. He would further say that he thought it was not desirable to discuss questions of priority by the present occasion. He thought that Dr Sambon should correct a statement in his paper by a reference to the reports by the commission of the Royal Society in which he would find that Dr. Castellani did not examine those patients, 70 per cent. of whom had the trypanosoma in their blood, until Colonel Bruce arrived. It was Colonel Bruce who initiated the investigation, he having observed the trypanosoma in five cases scattered over some four months—between November and February. But that was a matter which really was not of much interest for the Epidemiological Society. Another point had struck him. Dr. Sambon seemed inclined to claim a kind of priority in suggesting that the glossina palpalis was the carrier of the trypanosoma. Of course, it occurred to many. There was nothing in it. The real interest in the matter was Colonel Bruce finding the glossina palpalis which was not previously known. It was not known that the glossina palpalis really occurred on the shores of Lake Victoria Nyanza but he searched for and found it. The suggestion that a change went on in the interior of the glossina palpalis was a suggestion which everybody who had ever heard of the parasite would of course entertain. It was no use making a claim to priority in a suggestion of that kind. The suggestion was one which, in his opinion, was not worthy of being regarded as a matter of priority. He had no doubt that a great deal more would be done in the study of that particular trypanosoma in connexion with sleeping sickness and in other ways. They must not be impatient. He thought that a very extraordinary rapidity had been shown in the acquirement of knowledge about the relation of that trypanosoma to sleeping sickness when they remembered that it was only in the beginning of last March that these 28 out of 30 patients, or 70 per cent., were found to have it in their cerebro-spinal fluid and not much time had been lost in the investigation since then and it was still in progress.

Dr. M. E. BRUMPT (Paris), who spoke in French, said: The discovery of Castellani was for myself as well as for Sambon the point of departure of my hypothesis as regards the rôle played by the tsetse fly. Professor Manson doubted

on absolutely scientific grounds whether the trypanosoma was the cause of sleeping sickness and whether also it was not that another germ was injected at the same time as that of the trypanosoma. I believe, however, that I am able to say after my researches in Africa and those which I have carried out in Paris in collaboration with Dr. Wurtz that there is an absolute coincidence between the appearance of the trypanosoma and the symptoms of sleeping sickness.

The discussion was adjourned to Jan. 15th, 1904.

EDINBURGH OBSTETRICAL SOCIETY.

Fœtal Thyroid Hypertrophy.—Thyroid Extract in Puerperal Eclampsia.

A MEETING of this society was held on Dec. 9th, Dr. N. T. BREWIS, the President, being in the chair.

Dr. W. E. FOTHERGILL (Manchester) read a paper on Hypertrophy of the Fœtal Thyroid with Maternal Eclampsia. He regarded these two conditions as independent of one another. The eclampsia had been treated with thyroid extract. The case was also one of the five recorded instances of hypertrophy of the thyroid gland in the child following the administration of chlorate of potassium to the mother during pregnancy. The patient was 37 years of age and of gouty Derbyshire ancestry. She was married at 27 years of age, went abroad, and had been under many medical men for dysmenorrhœa. She had two early abortions and a third pregnancy ended at the fourth month in May, 1899. She again became pregnant till November, 1901, but it ended in an incomplete abortion for which she was curetted. Her fifth pregnancy began in April, 1902, while she was wearing a pessary, but this was removed and one or two small sponges were inserted into the vagina during the day if necessary; these afforded her great relief if pain and discomfort were present. As Dr. Fothergill thought it probable that the repeated abortions were due to placental thrombosis he prescribed ten grains of chlorate of potassium and ten minims of tinctura ferri perchloridi with glycerine and quassia thrice daily. This was begun immediately pregnancy was recognised and was continued throughout the gestation, which was undisturbed. The urine was examined several times and was found to be quite normal on Dec. 3rd. It should be noted that the patient's thyroid gland appeared to enlarge to about the usual extent during this pregnancy. On Dec. 7th there was slight swelling of the hands and feet and on the 16th the urine contained 0·2 per cent. of albumin. Five grains of thyroid were given twice daily and she was put on vegetarian diet. On the 25th she had eaten goose and plum-pudding and felt ill afterwards, suffering from headache and vomiting. On the 29th she passed no urine and that evening two eclamptic seizures occurred. Half a grain of morphia was given hypodermically and hot-water bottles were applied followed by profuse perspiration. Next day she was drowsy and restless and vision was impaired; no urine had been passed, so water was injected into the rectum, calomel was given, and nine five grain thyroid tabloids were administered during the next 24 hours. On the 31st the condition remained unchanged; rectal lavage was repeated and seven thyroid tabloids were given. Urine was passed that evening. On Jan. 1st labour began in the afternoon and at 9 P.M. the head was in the vulva. A little chloroform was given, the tough perineum was incised on either side, and forceps were used to deliver the head. A small female child was easily born; she cried freely immediately and some venous distension in the neck at once became visible. The child was found to have a large solid tumour representing the whole of the thyroid gland and this was covered by an enormously dilated venous plexus. The head and neck became more and more intensely congested and it became clear that the circulation as demanded by the pulmonary respiration could not be established. The child lived only for about one hour after birth. For 24 hours after labour there was complete anuria, but one and three-quarter pints were passed late on the evening of Jan. 2nd. Thyroid substance was given to the extent of 30 grains. Next day the urine passed amounted to five pints. Another 15 grains of thyroid were given and its administration was stopped. The pulse-rate was 150. Next day, the 4th, five pints of urine were passed and the pulse fell to 110. After this her condition gradually became normal. At the necropsy on the child an almost angiomatous mass of vessels was found in front of the thyroid. The thymus was normal. The thyroid, completely freed of all other structures, weighed 25·8 grammes; its lobes were equally enlarged and the isthmus was nearly equal in size to one of the lobes. The lobes embraced the trachea, larynx, and œsophagus. Microscopic sections showed uniform structure of a glandular nature. The enlargement was due to overgrowth of all the tissue elements, especially the glandular. The average weight of the thyroid in an infant was from one to two grammes; this one was 25·8 grammes. This case seemed to show benefit from the thyroid treatment of albuminuria of pregnancy; if Dr. Fothergill had given more at first she might not have had eclampsia. He intended to give it a further trial. This case also illustrated the non-interference treatment of the gestation in eclampsia; he believed that labour should not be artificially induced in the presence of convulsions or coma; if labour began before or during the attack it should be conducted with care and patience but without unnecessary delay. Dr. Fothergill then quoted references bearing on the subject from the works and practice of Dr. J. W. Ballantyne, Sir J. Y. Simpson, Professor A. R. Simpson, Dr. Angus Macdonald of Edinburgh, and Dr. J. T. Hewetson of Birmingham. Five cases in all had occurred where there was no congenital tendency and where the mother was taking chlorate of potassium. Many mothers took this drug without the child having goitre, but one should try to find out the reason why in certain cases the administration of chlorate of potassium should be associated with the thyroid enlargement in the infant. Experience showed that the administration of this drug in cases of habitual abortion was frequently followed by a full-time pregnancy. In cases of habitual abortion microscopic examination showed the presence of extensive thrombosis within the intervillous spaces of the placenta. Small doses of chlorate of potassium would appear either to reduce the coagulability of normal blood or to neutralise the effects of some form of toxæmia which favoured thrombosis.

Dr. H. OLIPHANT NICHOLSON read a paper on a case of Eclampsia treated by Large Doses of Thyroid Extract. He recommended the use of thyroid extract as a prophylactic in the pre-eclamptic state, giving it in small doses of from five to 20 grains each day, the main object of the treatment at this stage being to re-adjust the processes of nutrition in such a manner as to complete more fully the metabolism of nitrogenous substances. In actual eclampsia thyroid extract was a valuable remedy, but it must be given in large doses before good effects might be apparent. The urine might be greatly diminished or suppressed and the really essential aim of any method of treatment was to get the kidneys to secrete again. In eclampsia the condition of the arteries and arterioles was one of profound constriction with resulting rise in blood pressure. Vaso-dilatation was the principle of treatment indicated. To induce vaso-dilatation very large doses must be given, 30 or 40 grains of the thyroid extract, and a second dose of from 20 to 30 grains might be required in six or eight hours if there were no evidences of improvement. A state of thyroid intoxication must be induced as rapidly as possible. When thyroidism was produced the renal arteries became relaxed and the secretion of urine commenced. The combination of morphine and thyroid extract was most successful as a means of re-establishing diuresis; morphine must also be given in good doses, as half a grain hypodermically. Dr. Nicholson then detailed a case treated by morphine and thyroid extract in which the patient made a good and rapid recovery.

These papers were discussed by Professor SIMPSON, Dr. D. BERRY HART, Dr. JAMES RITCHIE, Dr. BALLANTYNE, Dr. J. HAIG FERGUSON, Dr. H. M. CHURCH, Dr. W. FORDYCE, Dr. GIBBONS of Boston, and the PRESIDENT.

Dr. FOTHERGILL and Dr. NICHOLSON replied.

HARVEIAN SOCIETY OF LONDON.—A meeting of this society was held on Dec. 3rd, Dr. W. Winslow Hall, the President, being in the chair.—Mr. C. W. Mansell Moullin opened a discussion on the Present Treatment of the Enlarged Prostate.—Mr. G. Buckston Browne thought that the satisfactory or unsatisfactory progress of a catheter case depended largely on the aseptic care used. Moreover, a distended bladder must be only gradually

emptied. He could not agree with Mr. Moullin that after two years of catheter life the bladder lost its contractility. 11 years ago he performed a suprapubic prostatectomy on a patient who had used a catheter for 20 years. No catheter had been required since, the bladder acting perfectly. He was glad that Mr. Moullin only spoke of partial removal of the prostate; the prostate, being actually part of the bladder and part of the urethra, had never been removed in its entirety and never would be. Partial removal of the prostate, as performed now, was McGill's operation, and while too dangerous to be a routine operation was perfectly justifiable in certain extreme cases.—Mr. P. J. Freyer, who exhibited several specimens which he had removed entire in their capsules, said that antiquated and useless operations based purely on theoretical considerations were happily passing rapidly into the limbo of forgotten things. He was surprised that Mr. Moullin had made no reference to his (Mr. Freyer's) operation. He was quite satisfied with the progress which this operation had made in the last two and a half years. No operation was attended by more completely successful results and the mortality, considering the age and condition of the patients, was very small. It had also been proved that there was no such thing as atony of the bladder in connexion with prostatic enlargement, as in no instance had a patient failed to regain complete power of natural micturition. It was absurd to talk of McGill's operation as similar to his. No specimen of an entire prostate resembling those he exhibited had ever been placed in a museum before the date when his operation was placed before the profession. He believed that Mr. Shattock confirmed his views that the capsule was removed with the prostate. This, however, was a question of merely academic interest. Mr. Freyer's operation, while attended by a small mortality, gave complete and permanent cure of all the symptoms.—Mr. H. T. Herring said that the only cases that called for treatment were those that interfered with the function of micturition. He did not agree that the disease was markedly progressive or that bad symptoms must necessarily follow the use of instruments. Such symptoms did not arise from the prostate but from contamination of the urine with micro-organisms. The symptoms were rarely if ever increased by the habitual use of a sterile catheter. Mr. Herring denied that it was impossible for a patient to keep himself surgically clean.—Mr. J. G. Pardoe considered that in the case of very aged men with tolerant bladders catheterism was the treatment of choice. As regards the loss of the expulsive power of the bladder he had never seen this after complete removal of the prostate in patients in whom catheter life had lasted for from six months to 16 years. As regards asepsis in catheterism Mr. Pardoe thought it an impossibility in the large class of those who had hard manual work to perform for their living or were old and feeble and unable to procure assistance.—Mr. P. L. Daniel said that the treatment of prostatic obstruction at present carried out was unsound and not based on sound pathology. Most symptoms were due to secondary contamination by micro-organisms introduced from without. Symptoms due to prostatic disease *per se* were those of slight difficulty and frequency of micturition, all other symptoms being due to cystitis, generally caused by dirty catheters, and occasionally arising from the posterior urethra where micro-organisms had remained after an attack of gonorrhœa. Treatment must therefore be directed first to the prevention of a posterior urethritis or to its cure; and secondly, to the prevention of chronic cystitis caused by dirty instruments. An instrument invented by Mr. Herring rendered catheterism practically safe.—Dr. Horace Manders said that in his experience elderly men reduced to the constant use of the catheter did not show such universal tendency to sink and to die from sepsis. He had found that certain drugs, like salol, helped to prevent sepsis. He thought that male nurses ought to be more impressed with the importance of sterilisation and he did not agree that sterilisation could only be properly effected by boiling. The careful and scientific use of the catheter had prolonged many valuable lives, but a large number of cases could only be benefited by a total removal of the prostate.—Mr. Mansell Moullin replied on the whole discussion.

DERMATOLOGICAL SOCIETY OF LONDON.—An ordinary meeting of this society was held on Dec. 9th Mr. Malcolm A. Morris being in the chair.—Mr. Morris showed a man in whom severe Lichen Planus of the Legs had developed after prolonged mental worry. The disease appeared nine months previously to exhibition upon the front of the ankles and crept gradually up the legs to the knees, assuming the hypertrophic type. Within the last few months the disease had also invaded the mucous membrane of the mouth.—Dr. T. Colcott Fox showed a child, aged ten months, suffering from Sclerema Neonatorum. The child was the youngest of 12 children, of whom nine were still living; he had suffered from no particular disorder at birth but had always been small. At the age of three months he had been taken to hospital on account of wasting and it was then pointed out to the mother that the skin of the trunk, especially the abdomen, was thickened and infiltrated. When shown the sclerema was gradually resolving and the skin gave a very peculiar sensation to the hand, some parts feeling thin and depressed, probably the normal parts, while others still gave the hard infiltrated impression. Dr. Fox suggested that there was a possibility of the presence of a slow septic lymphangitis.—Dr. F. G. Penrose showed a case of Rough Skin in a child, aged four and a half years, coming on after a bad attack of Broncho-pneumonia. The patient had been tested on two occasions with tuberculin but without producing any reaction. Dr. Penrose said that he was familiar with the condition in tuberculosis but that this child was evidently free from the disease.—Dr. A. Whitfield said that the condition was known as pityriasis tabescentium and that it sometimes occurred in all wasting diseases, even in adults. He regarded it as a sign of malnutrition and thought that it was probably due to the horny cells not performing their full cycle and consequently accumulating in the shape of scales and follicular horns.—Dr. J. H. Sequeira showed: 1. A woman with a widespread Lupus Erythematosus over the head, the face, and the back. There were no history of tuberculous disease in the family and no evidence of it in the patient, but, on the other hand, there was the association with albuminuria which he had already recorded in several other cases. 2. A woman who had contracted Syphilis nine years ago and had for the last three years been affected with discoid patches and sheets of red infiltrated and œdematous eruption over the face and scalp. The eruption closely resembled seborrhœic eczema and he believed it to be a mixed eruption of syphilis and seborrhœa.—Dr. J. M. H. MacLeod showed a boy, aged 14 years, who had had an eruption which was almost certainly a local tuberculosis affecting the skin over the two inner left metacarpals and the ulnar side of the hand. The disease had existed since the age of 18 months and had greatly improved under treatment with radium.—Dr. E. G. Graham Little showed a man suffering from a small patch of Scleroderma one inch in its vertical and half an inch in its horizontal diameter, situated almost exactly in the centre of the hairy margin over the forehead. The disease existed nowhere else and had only developed four months ago. The diagnosis from lupus erythematosus was somewhat difficult.—Dr. S. E. Dore showed: 1. A girl with Ringworm of the Nails, in which the infection seemed to have occurred from the posterior fold into the matrix, only affecting the free margin later. Several nails were affected and the disease was of unusually rapid onset, having only existed two months. 2. A man with a very widespread Pityriasis Versicolor affecting the whole of the trunk, the arms down to about halfway between the elbows and wrists, and the backs of the knees. The man was a profuse sweater.—Dr. James Galloway showed (1) a case of Rupioid Psoriasis and (2) a woman, aged 37 years, who had been affected with Scleroderma over the region supplied by the right supra-orbital for the last 20 years. It had gradually involved also the region round the right ala nasi and the inside of the nose. Now she had deafness especially affecting the left ear and this was found to be due to otosclerosis of the primary type.

LARYNGOLOGICAL SOCIETY OF LONDON.—A meeting of this society was held on Dec. 4th, Mr. Charters J. Symonds, Vice-President, being in the chair.—Sir Felix Semon described a case of Epithelioma of the Larynx in which operation had been twice performed by thyrotomy and resection of crico-thyroid membrane. The patient was a man, 58 years of age, who had suffered for a long time from albuminuria and chronic bronchial catarrh and had become quite aphonic. Examination revealed the presence of irregular nodular outgrowths on the anterior parts of both vocal cords. The probability of the growth being malignant, owing to the age of the patient,

operation was decided on. On thyrotomy being performed the whole of the anterior and lateral walls of the larynx in the region of the vocal cords was found to be a mass of disease. This was removed together with the whole cricothyroid membrane which was involved. The thyroid cartilage was found not to be affected. On microscopical examination the growth proved to be a squamous-celled carcinoma. The patient made a good recovery but two months after began to suffer from breathlessness and on laryngoscopic examination a greyish mass of what appeared like granulation tissue was seen projecting into the lumen of the larynx. The wound was reopened and it was found that recurrence had occurred on both sides of the middle line in front. The soft parts were removed from the thyroid cartilage, together with a U-shaped piece of the laryngeal framework and a small portion of the upper part of the trachea. The patient made a good recovery and had so far remained free from fresh recurrence. The case was noteworthy as illustrating first that chronic albuminuria and chronic bronchial catarrh were not necessarily contra-indications to radical operations of this kind; secondly, that the disease was very much more extensive than appeared on laryngoscopic examination; and thirdly, that if the disease extended beyond the precincts proper to the larynx the danger of recurrence was much greater.—Mr. Charters Symonds showed a man, 30 years of age, two and a half years after operation for Traumatic Rupture of the Trachea. There was an irritating cough which was relieved on the fifth day after the accident by the expectoration of a slough. No cartilage was found in the slough. About a month later he began to breathe with difficulty and stridor. An operation was advised with a view to removing the obstruction. On dividing the trachea in the median line the third and fourth rings were seen to be injured, one was broken and bent inwards; they had been also separated so that the trachea appeared lengthened and sharply bent inwards. The deformity was partly corrected by removing a part of the cartilage and sewing the adjoining rings together. The sutures were placed so as to evert as much as possible the indented wall. The trachea was not closed. The wound was covered with gauze. A tube was not used. The patient made a rapid recovery and had suffered from no inconvenience since.—Dr. James Donelan showed a specimen and temperature chart from an inoperable case of Epithelioma of the Larynx in a man, 45 years of age, undergoing treatment by Schmidt's serum. There had been no rise of temperature and but slight constitutional disturbance. The local reaction had been marked and the growth had become decidedly smaller.—Dr. H. Tilley showed a case of Complete Nasal Obstruction on the Right Side due to Chronic Dental Abscess arising from the roots of the incisor tooth and forming an external fluctuating swelling below the right nasal bone. When first seen the entrance to the right nasal cavity was observed to be filled by a fleshy mass resembling in its contour a much enlarged anterior extremity of the inferior turbinal but it was more resistant than the latter and did not appreciably diminish under the influence of cocaine. An adhesion bound it to the nasal septum. Puncture of the swelling internally by means of a hollow needle was followed by the discharge of a dark serous fluid containing cholesterine crystals. Under general anæsthesia the anterior end of the right inferior turbinal was removed and also two "dead" incisor teeth. The patient made an uninterrupted recovery.—Dr. H. Lambert Lack showed a man, aged 60 years, who had undergone operation six months previously for Epithelioma of the Epiglottis, Glosso-Epiglottic Fossa, and Base of the Tongue with enlarged Glands on both sides of the neck. The cervical glands had been removed and also the primary growth (by subhyoid thyrotomy) at one operation. So far there was no recurrence.—Dr. J. Dundas Grant showed a case of Pharyngomycosis.—Cases and specimens were also shown by Major F. O'Kinealy, I.M.S., Dr. Scanes Spicer, Mr. F. Hunter Tod, Dr. E. Cresswell Baber, Dr. StClair Thomson, Dr. H. J. Davis, and Dr. G. C. Cathcart.

LIVERPOOL MEDICAL INSTITUTION.—The second meeting of the session of the Pathological and Microscopical section of this society was held on Dec. 10th, Dr. R. J. M. Buchanan being in the chair.—Dr. K. A. Grossmann showed sections and lantern slides illustrating a case of Multiple Conjunctival Papilloma. The growths consisted of branched processes of the conjunctival stroma covered by many layers of epithelial cells.—Mr. W. Thelwall Thomas showed sections of a Myeloid Tumour of the Lower Jaw removed from a patient aged four years; also an Adenochondroma of the Submaxillary Gland; a Ring of Thrombosed Hæmorrhoids removed by Whitehead's operation; and specimens illustrating Cystic Mastitis with Intracystic Papillomatous Growth and Fibro-sarcoma of the Abdominal Wall.—Dr. W. B. Warrington exhibited a large Blood Clot which had been found between the liver and the diaphragm of a patient suffering from Chronic Interstitial Nephritis. The hæmorrhage was not traced to any particular vessel and appeared to have been due to capillary bleeding from the peritoneal vessels.—Mr. Richard Williams and Mr. E. M. Stockdale showed sections of an Endothelioma of the Retina and of a Rodent Carcinoma of the Eyelid.—Mr. Hugh E. Jones and Mr. Stockdale exhibited sections of a Melano-sarcoma of the Choroid and of a Pseudo-glioma of Inflammatory Origin.—Mr. Stockdale also showed a Liver with a rudimentary but lobulated left lobe.—Mr. A. W. Riddell showed a specimen of Radium prepared by Sir W. Crookes as a microscopic slide and known as the spinthariscope; under a half-inch objective and an ocular × 5 it showed the flashes only; with the eye-piece lens in addition the sparking was also seen.—Dr. Buchanan showed coloured illustrations of an Empyema Cavity, of a Heart with Aortic Disease, and a Brain with Cerebral Hæmorrhage. Dr. Buchanan also showed Films of Blood containing polychromatophilic red cells and discussed their relation to pernicious anæmia.—Dr. Warrington gave a short account of the Symptoms and Diagnosis of Combined Sclerosis of the Spinal Cord and illustrated the anatomy of the disease by preparations which had been made by Dr. J. T. Collier. Dr. Warrington considered that the symptomatology and anatomy of the disease had now been sufficiently defined to consider it a distinct disease with a recognised course and stages.—Dr. Glynn recalled the fact that Dr. Pierre Marie had described in his "Leçons sur les Maladies de la Moelle" a somewhat similar condition associated with combined degenerations of the cord which he attributed to vascular changes. The situations in which the sclerotic changes took place pointed to this vascular origin.—Dr. A. S. F. Grünbaum thought that the fact that the grey matter escaped in the course of the sclerotic changes indicated that the vascular theory of the disease could not be sustained.—In the discussion of the specimens the following members took part: Dr. Buchanan, Dr. E. E. Glynn, Dr. Grünbaum, Mr. A. P. Hope Simpson, Mr. F. C. Larkin, and Mr. K. W. Monsarrat.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Dec. 1st, Mr. G. H. West Jones, the President, being in the chair.—Mr. S. Snell showed the following cases: 1. A boy (a file cutter), aged 15 years, with Optic Atrophy from Lead Poisoning. 2. A woman with Monocular Proptosis and Graefe's sign; there was no enlargement of the thyroid or tachycardia. 3 and 4. Two sisters one with Coloboma of the Iris and Choroid in each eye and the other in whom one eye only was affected. Reference was made to a boy, at present under observation, with double microphthalmos, coloboma of the iris and choroid in one eye and the remains of pupillary membrane in each eye. 5. A well-marked case of Diabetic Retinitis, with diabetes of long duration. 6. A woman with marked Albuminuric Retinitis. 7. An instance of Extreme Convergent Strabismus in a man. 8. Trachoma in an alien.—Dr. George Wilkinson showed two cases of Syphilitic Lesions of the Auditory Meatus.—Dr. A. J. Hall showed the following cases: (1) Exophthalmic Goitre; (2) Tertiary Syphilitic Eruption of the Legs; (3) Favus; and (4) Congenital Syphilide.—Mr. Richard Favell showed specimens of Tumours of the Uterus.—Dr. A. E. Naish showed a case of Hæmophilia with hæmorrhage under the right iliac fascia. The patient was a boy, aged 17 years. The ankles, knees, and elbows had been frequently affected since the age of five years. The left knee was the seat of extensive osteo-arthritic changes with enlargement of the bones and fixation in a flexed position. A large hæmorrhagic effusion had appeared suddenly in the right iliac fossa, accompanied by pain in the corresponding hip-joint. This mass had now completely disappeared, leaving the psoas muscle firm and thickened. The patient was the eldest of a family of four boys, three of whom suffered from the disease. One brother had died from a minute cut on the lip. His mother suffered from hæmophilia of a mild type.—Dr. Hall read a paper entitled "Some Remarks on Sudden Death," illustrated by pathological specimens. He referred to the different conditions under which sudden

death, apart from violence, poison, and drowning, occurred, and the difficulty of framing a definition which would cover such cases. Even if the term "unexpected death" were used it left out many cases. Specimens were shown illustrating various causes of sudden death, e.g., pulmonary embolism, ruptured heart, ruptured aneurysm, meningeal hæmorrhage from cerebral aneurysm, syphilitic fibrosis of the heart, and pontine hæmorrhage. Reference was also made to sudden death in which nothing was found post mortem to account for it; pneumonia in the aged apparently of a mild type was also mentioned as dangerous, also alcoholism in women, and particularly the taking of strong purgatives by old people.

EDINBURGH ROYAL MEDICAL SOCIETY.—A meeting of this society was held on Dec. 11th, Dr. H. D. Shepherd being in the chair.—Dr. H. H. Littlejohn gave an address, illustrated by numerous statistical tables, on the subject of Suicide. Confining his attention chiefly to European countries he pointed out that suicide was more prevalent in central Europe than in the north or south. Saxony showed the largest number of annual suicides—viz., 392 per 1,000,000 living; Ireland, at the opposite extreme, had only 17. A curious fact was that the winter months were not those in which most suicides took place—May and June being the worst months in this respect. Suicide was more common in men than in women in the proportion of three to one, and the modes of death varied in the two sexes—women as a rule choosing those methods which were least disfiguring to the person. As regarded occupation, soldiers as a class gave far and away the greatest proportionate numbers of suicides. That the constant presence of means to the end was an important factor in determining a person to commit suicide, as in the case of the soldier, was shown also by the large number of chemists and medical men who perished by their own hand. An alarming fact was the increase in the number of suicides within recent years, an increase which was proportionately much greater than the increase in population.—Dr. Littlejohn was heartily thanked for his address. —Dr. T. W. E. Ross showed a specimen of a case of Mediastinal Tumour in a boy, aged 15 years. The patient had a history of thoracic distress of only two months' duration. The tumour, which occupied almost the whole of the left pleural cavity, presented the appearance of a lymphosarcoma.—A dissertation on the Treatment of Cardiac Disease by Dr. A. B. Ross was read in his absence by Dr. H. J. Dunbar.

ULSTER MEDICAL SOCIETY.—The second general meeting of this society was held on Dec. 3rd at the Belfast Medical Institute.—Dr. W. M. Killen showed a man in whom for a considerable time the diagnosis lay between Cerebral Abscess from old Ear Disease or Tumour. The history of the case and the beneficial effect of iodide of potassium pointed in the direction of a tumour.—Mr. A. Fullerton showed a child the subject of Acquired Syphilis, the chancre being on the chin. He also exhibited a skiagram showing a Coin impacted in a Child's Œsophagus which he successfully removed by cutting down on the gullet and a skiagram of a Transverse Fracture of the Shaft of the Humerus treated by operation.—Mr. Robert Campbell read a paper on the Radical Cure of Hernia in Infants and Young Children. He had operated on 114 cases at ages varying from three weeks to ten years without a single death. There were 11 of them strangulated (two as early as three weeks). No recurrences took place and as to complications two rickety children had slight bronchitis, one wound suppurated and the stitches had to be removed, and in one case some blood clot appeared and one stitch had to be taken out.—An interesting discussion followed.

PATHOLOGICAL SOCIETY OF MANCHESTER.—A meeting of this society was held on Dec. 9th, Dr. E. S. Reynolds, the President, being in the chair.—Dr. I. Walker Hall and Dr. W. H. Brazil described the appearances of a Proliferative Cyst-adenoma occurring in connexion with the liver of a child, aged six and a half years. The tumour gave no symptoms during life. It was adherent to the under surface of the liver and displaced the gall-bladder to the right lateral border. In structure it consisted of fibrous tissue containing cysts lined by cubical or columnar epithelium. It was in a condition of active proliferation, was entirely extrahepatic, and probably arose from aberrant bile ducts. Several small tubes passed from the right hepatic duct to the substance of the tumour. These were found to consist of fibrous tissue in which were observed definite lumina lined by columnar epithelium.—Dr. Moore showed specimens of Cystic Disease of the Liver and Kidneys.—Other preparations were shown as card specimens and included a demonstration of Various Methods of staining Nerve Tissues.

SOUTH-WEST LONDON MEDICAL SOCIETY.—The monthly meeting of this society was held on Dec. 9th at Bolingbroke Hospital, Mr. E. F. White, the President, being in the chair. Notes of interesting cases were read as follows: Mr. H. Stanley Turner, a case of Middle ear Disease; Dr. M. Mackintosh, a case of Abscess in the Lung; Dr. Donald F. Shearer, two cases of Loss of Power in the Right Leg; and Mr. A. G. Everard, a case of Scarlet Fever occurring in a patient for the fifth time. Mr. Eber Cautwell showed a case of Empyema, a case of Tracheotomy for Laryngitis, a case of Perforating Ulcer of the Foot, and a case of Colles's Fracture. Mr. E. W. M. Hearn exhibited a case of Spina Bifida in a child, aged 30 hours, and a case of Ovarian Tumour in a girl aged nine years.

Reviews and Notices of Books.

First Report of the Trypanosomiasis Expedition to Senegambia (1902) of the Liverpool School of Tropical Medicine and Medical Parasitology. By J. EVERETT DUTTON, M.B., B.Ch. Vict., and JOHN L. TODD, B.A., M.D., C.M. McGill. With Notes by H. E. ANNETT, M.D., D.P.H. Vict., and an Appendix by F. V. THEOBALD, M.A. Published for the University Press of Liverpool by Longmans, Green, and Co., London. 1903. Pp. 56. Price 10s. 6d.

THE subject of trypanosomiasis has lately attracted considerable attention in consequence of the investigations recently made in Uganda as to the causal relationship between trypanosomes and sleeping sickness. In 1901 Dr. J. E. Dutton found these organisms in the blood of a European who was suffering from an illness characterised by a peculiar combination of symptoms. The clinical picture presented was one which might be confounded with that of a tropical disease. Before the details of this case were published in the "Thompson Yates Laboratories Report," May, 1902, a trypanosome was found in a blood film taken from a native child in the Gambia, and the discovery of a second case of human trypanosomiasis made it probable that the first was not altogether a curiosity. The committee of the Liverpool School of Tropical Medicine realised the possible importance of this new parasite as a cause of disease and with characteristic energy despatched an expedition to Senegambia to make further investigations in the subject and the report of the members of that expedition—Dr. J. E. Dutton and Dr. J. L. Todd—now lies before us.

In the introduction we are informed that in this report only a very small portion of the work done in the Gambia on trypanosomiasis is described; there is sufficient, however, to form most interesting and instructive reading. The first section deals with Human Trypanosomiasis. An attempt was made to ascertain the distribution and prevalence of the parasite. The blood of no less than 1043 persons was examined but trypanosomes were only found in six instances. The investigators, however, are convinced that the percentage given by these figures is smaller than is actually the case. Their reasons for holding this opinion are the following: (1) many cases certainly escaped identification both because of the scanty numbers in which the parasites were seen in the cases examined and because of the periodicity of their absence or presence in the peripheral circulation; and (2) the majority of the natives examined were apparently healthy children and young adults who could be persuaded by small bribes to allow their fingers to be pricked; thus suggesting that adults are more liable to infection than children. The clinical

symptoms yielded by the presence of the trypanosomes revealed no marked constant characteristic.

The next part of the report is concerned with Equine Trypanosomiasis. The first trypanosome which Dr. Dutton and Dr. Todd found while in the Gambia was in the blood of a horse and this is the only animal in which they were able to distinguish a pathogenic trypanosome. Out of 36 horses examined ten were found to be infected. From the careful inquiries made the following conclusions were arrived at: (1) equine trypanosomiasis in the Gambia is a very chronic disease; (2) it occurs throughout the colony and is possibly more prevalent near the river, especially during the rainy season; and (3) cattle and other domestic animals are not known to suffer from the disease.

Although a positive diagnosis of trypanosomiasis could only be made by a demonstration of the parasite, either by microscopical examination of suspected blood or by inoculation of that blood into unaffected animals, in several cases the condition was suggested by the listless expression of the affected animal and by the slight rise in temperature which was always present. Attempts to transmit trypanosomiasis from infected to healthy animals were uniformly negative. As the "results of inoculation of the Gambian human and equine trypanosomes in experimental animals" Dr. Dutton and Dr. Todd are inclined to believe that these organisms are not the same species but further experiments are necessary before a definite result can be arrived at. Some interesting observations are recorded as regards other forms of flagellata found in Senegambia.

LIBRARY TABLE.

Guy's Hospital, 1724–1902: A Tribute to its Founder and a Record of its Work. Illustrated. London: Ash and Company, Limited. 1903. Pp. 58. Price 2*s.* 6*d.*—In commenting upon this interesting book with its admirable pictures of life in the hospital we cannot do better than quote the first words of the preface as follows: "This book is sent forth in the hope that it may help to make better known the peculiar virtue and charm, the vastness and importance of the work, and the present grave wants of the hospital founded by Thomas Guy in his lifetime. Perchance it may discover a Thomas Guy of the twentieth century." When reading this statement we can hardly help picturing the gentle dove sent forth from the ark in the hope of finding solid ground or the brave emissary sent forth in search of help by a perishing band of once prosperous explorers. The book concludes with a short and interesting explanation of the present grave financial necessities of the hospital which we believe will be new to some at least of the younger generation. We can only give extracts from this well-worded account. From 1724, and for 160 years, this great foundation and its ministrations were an absolutely free gift to the people. But the time came in the early eighties when the disasters which had overtaken British agriculture fell upon the estates which represented the founder's endowment. With overwhelming rapidity, almost without warning, the income derived by the hospital from its rents went down to almost one-half. Here the very prosperity of the hospital in the past became a source of weakness. It had no list of donors, no annual subscribers; few, if any, wills contained provisions in its favour. Guy's, in short, had yet to learn the very A, B, C of how to beg. The amount asked for (£100,000) in 1886 was gladly given but by the year 1895 this was exhausted. The governors appealed again and Mr. Gladstone made the needs of the hospital quiver in the ears of the people. Amongst those who responded was his present Majesty King Edward VII. who publicly identified himself with the cause, became president of the hospital, inaugurated a re endowment fund, and worked strenuously for its success. It is the simple truth that His Majesty's gracious and effective action was the salvation of the case and its memory will endure so long as Guy's Hospital endures. Disaster was stayed and an era of hope and progress began but always to the accompaniment of harassing financial strain. Over and above the struggle for daily bread came the demand and necessity for heavy expenditure on the permanent works and improvements; and thus, while Guy's Hospital had never done a greater work or done it more effectively than in 1902, the close of that year witnessed the hospital heavily indebted on capital expenditure and its assured income dangerously small. The last paragraph, we think, is worth quoting *in extenso*, as follows: "Yet the spirit of Charity is not dead. In this great metropolis, whose vastness hides suffering from view and deadens the sense of responsibility, that spirit, indeed, tends to slumber; but it will answer to a true, clear call. And so let these last words be the expression of a fervent hope, a firm trust, that old friends will be reanimated and new friends found in the days that are with us, to free from care Thomas Guy's glorious foundation, that sure refuge whither, through the long years since 1724, the poor and afflicted have turned for sympathy and healing like as unto a great rock's shadow in a weary land." We can only say that if this book does not find another Thomas Guy it ought to and we hope it will; in fact, if we may say so, Guy's seems not only to have learnt A, B, C but also considerably further down the alphabet.

Traité des Urines: Analyse des Urines considérée comme un des Éléments de Diagnostic. (A Treatise on Urines: the Analysis of Urines considered as one Element of Diagnosis.) By Dr. E. GÉRARD. Paris: Vigot Frères. 1903. Pp. viii.–492. Price 7 francs.—This book is a very practical work which should be found useful to practitioners of medicine. That a careful analysis of urines both in health and disease can throw light upon many of the problems of disease there can be no doubt and Dr. Gérard gives a very full account of the many methods which are employed in analysis. The book is divided into three parts, the first of which treats of the analysis of normal urines and the second of the analysis of the urine as secreted in varying pathological conditions. Albumins are treated of first and then follow the sugars, acetones, blood, and the presence of digestive substances, such as bile, leucin, and tyrosin. Chapter XIII. deals with urinary sediments and thence to the end of the part the author speaks of the various modifications brought about in the normal constituents of the urine by pathological conditions. In Part III. the clinical urology of various diseases is dealt with. Altogether the book should be found of great use.

Practical Text-book of Midwifery for Nurses. By ROBERT JARDINE, M.D. Edin. Second edition. Edinburgh: W. F. Clay. 1903. Pp. 284, with 30 Illustrations. Crown 8vo. Price 6*s.*—The second edition of this work has been carefully revised and many alterations have been made. We notice that the author has left out the words "for students" in the title. In this he has been well advised since, as we pointed out in our notice of the first edition, the book is hardly a suitable one for the use of students. A new chapter has been added on Accidents to the Child during Delivery: Abnormalities and Diseases of the New-born Child. This contains a good account of the various accidents and ailments that a nurse may be required to recognise. The book should be of value to women intending to practise as midwives and is a good example of its class.

Essays and Notes on Hydrotherapeutics. By RICHARD METCALFE. London: Simpkin, Marshall, Hamilton, Kent, and Co., Limited. 1903. Pp. 254. Price 3*s.* 6*d.* net.—Mr. Metcalfe, we gather from the appendix to his book and from the illustration which forms the frontispiece

of the appendix, is the proprietor of a hydropathic establishment at Richmond. Hydrotherapeutics, like every other form of medication, have their uses when properly directed by an intelligent medical men. Mr. Metcalfe's views on the pathology of scarlatinal dropsy show that he at all events does not come under this category. On p. 16 we read: "Scarlatina being an eruptive disease of the skin obstructs the escape of the perspiration and causes the fluid to accumulate in the system. The kidneys will for a time succeed in relieving the patient. But if the skin is not speedily restored to its normal action dropsy is inevitable." The value of clean water to drink, of cleanliness, and of wet packs in certain febrile and other diseases is now fully recognised by the medical profession and although we can allow that hydrotherapy has its uses Mr. Metcalfe is evidently not the man to advise as to them.

Who's Who, 1904, and Who's Who Year Book, 1904. London and Edinburgh: Adam and Charles Black. Price 7*s.* 6*d.* and 1*s.*—This useful book of reference is published for the first time this year in two parts. The biographical portion appears by itself, while the tables of general information form a separate and much slenderer volume. "Who's Who" has now become indispensable to the furnishing of every editorial desk. The times in which we live make it necessary that accurate information should be quickly available about all sorts and conditions of men. We in the office of a professional newspaper feel this and our feeling is shared by the thinking world. Not so very long ago, say 25 years, we required information about few people that we could not obtain from the Medical Directory. Medicine has now enlarged its borders. Public health governs public policy, tropical medicine is a matter of imperial policy, the work of the engineer and the electrician dovetails with that of the chemist and the sanitarian, and the medical journalist must on occasion be expected to know the status and the past record of men who have distinguished themselves in any branch of their various provinces of life. We turn to "Who's Who" for assistance and it is easy to see that our fellow editors do the same, whatever the general or particular lines of their organs. Of the actual biographies, which form the compilation we thus commend, there is not much to be said when we remember that they are for the most part furnished by their subjects. The larger biographies do not necessarily set forth the careers of the greater men, while the confidences given to the public by some of the writers are laughable. Such blemishes do not, however, detract from the utility of the book, for it is always easy to distinguish the really important people from the others, even though the claims of the others to consideration are furnished in meticulous detail.

Manual of Diseases of the Eye. By CHARLES H. MAY, M.D., Chief of Clinic and Instructor in Ophthalmology, Columbia University, New York. Third edition, revised. London: Baillière, Tindall, and Cox. 1903. Small 8vo, pp. xv.-408, with 275 illustrations. Price 8*s.* 6*d.* net.—This edition of Dr. May's work has been revised without being enlarged. The chapters correspond with those that other authors have found convenient to divide the subject of ophthalmology into, as the mode of examination of the eye, the theory of the ophthalmoscope, the various diseases of each part of the eye and of its appendages, the refraction of the eye and the errors to which it is liable, the disturbances of motility, and ocular therapeutics. The accounts of the several affections to which the eye is liable are briefly but clearly and correctly given and no space is wasted in unnecessary details respecting the mode in which remedies should be applied or operations performed. The student is supposed to be familiar with the details of minor surgery. Recent methods are not neglected as, for example, the use of protargol and the subcutaneous injection of solutions of corrosive sublimate in cases of refractory ulcers of the cornea so strongly advocated by the late Professor Panas. The connexion between the retinæ, the fibres of the optic nerves and tracts, and the cerebral cortex is well given. The illustrations though numerous are a little coarse, especially in the case of those representing the normal fundus of the eye. The manual will prove a useful book for students.

The Living Temple. By J. H. KELLOG. Battle Creek, Michigan, U.S.A.: Good Health Publishing Co. 1903. Pp. 563. Price 5*s.* 6*d.*—This work is a book on diet and hygiene written from a vegetarian standpoint. It contains some sense and a good deal of nonsense. There is no doubt that many people eat too much meat, many people drink far too much alcohol, and many people smoke too much or drink too much tea and coffee. But we do not believe that in northern climates, under modern conditions of work and society, that human beings can manage to live and to do their work upon a purely vegetarian diet. If we could all return to primitive conditions and live in Sicily or some of the South Sea Islands the case might be different. We are quite in accordance with the author as to his strictures upon modern bread made from flour which has nearly all the nutriment removed from it. It is a pity that a book which contains some really good advice should lay down counsels which cannot be followed under conditions of modern life.

Fungi, Protophyta, and Protozoa: their Relation to each Other, to Helminths, and to Disease, particularly Malarial Fever in the Tropics. By G. H. FINK, M.R.C.S. Eng., Major, I.M.S. (retired). Pp. 40.—In this little brochure the author, after referring to the work done by Laveran, Ross, and Manson in regard to the etiology of malaria, describes an outbreak of malarial fever that fell under his notice in the Bori Valley in South Afghanistan which was followed by epidemic infectious pneumonia. He attributes the outbreak to the impurity of the water and the scarcity of milk and having tested the water he was able to predict the occurrence of malarial cases in large numbers. Elsewhere he found that water swarming with mosquito larvæ was used for watering lettuces which were eaten raw and that malaria was prevalent. He also describes malarial fever in dogs and gives the modes in which spores may gain entrance into the body of these animals. Major Fink has a high opinion of the value of castor oil as a remedy in malaria. In this and other points we do not doubt his conclusions but the facts upon which he bases them are far too few and imperfectly worked out as they are here given to justify them. Finally, Major Fink should really attend to the orthography of the scientific names that he employs. Twice he spells "empusa" "empusca," and "filletia cares" is not the way to spell "tilletia caries," which, we presume, is the organism referred to.

Whitaker's Almanack, 1904. London: 12, Warwick-lane, Paternoster-row.—The 1904 edition of this indispensable work contains as usual some new features. Such are a tabular history of consols and of the income tax, a special article on technical education, tables and articles bearing on the fiscal question, an account of the marriage laws of Scotland, and the laws referring to motor cars. There is also a political history of the world for 1902–03. The perpetual calendar has been struck out and its place has been supplied by a calendar for 700 years from 1752, the date of the introduction of the new style. The rest of the book is as good and as useful as ever and no higher praise can be given.

Whitaker's Peerage, 1904. London: J. Whitaker and Sons.—This, we fancy, is the most complete peerage for its size that is published. The amount of information compressed within its 720 pages is enormous. The list of seats and residences now excludes all belonging to anyone under the rank of a knight and all of an official character. But the book is a worthy companion to the Almanack.

THE ETIOLOGY OF SLEEPING SICKNESS.

IN THE LANCET of Sept. 12th (p. 769) we drew attention to a Progress Report which had been issued by the commission which had been despatched by the Royal Society to Uganda to investigate the origin of sleeping sickness. We intimated the lines along which the inquiry had been conducted and also the results which had been already arrived at. Before proceeding to consider the further work of the commission it may prove interesting to refer to the events which led to its appointment. In 1902 Dr. G. C. Low, Dr. C. Christy, and Dr. A. Castellani were sent by the Royal Society Committee to Uganda to study the disease. After some months Dr. Castellani reported that he had discovered a streptococcus which he announced to be the cause of the disease. Dr. Low and Dr. Christy were unable to come to any conclusion as to the etiology of sleeping sickness and returned home, having made certain observations as to the distribution and features of the disease. Dr. Castellani remained in Uganda in order to work out more fully the history and nature of the streptococcus above mentioned. The Royal Society Committee then determined to advise the Foreign Office to secure, if possible, the services of an observer of experience and proved skill—namely, Lieutenant-Colonel David Bruce, F.R.S., of the Army Medical Service, the discoverer of the blood parasite in the nagana or tsetse fly disease of South Africa. Lieutenant-Colonel Bruce, accompanied by Dr. D. Nabarro, reached Entebbe on March 16th. There they were met by Captain E. D. W. Greig of the Indian Medical Service. Dr. Castellani informed these gentlemen of the work which he had been doing, one especially interesting observation being that he had discovered trypanosomes in the cerebro-spinal fluid in five out of 15 cases of sleeping sickness. The results of Dr. Castellani's further investigations were published in No. I. of the "Reports of the Sleeping Sickness Commission," to which we referred in our annotation on Sept. 12th.

A "Further Report on Sleeping Sickness in Uganda" is now before us and bears the names of Lieutenant-Colonel David Bruce, R.A.M.C., F.R.S., David Nabarro, M.D. Lond., and Captain E. D. W. Greig, I.M.S. It was received on Sept. 30th, 1903. It states that in order to make it more easily understood and to prevent the necessity of constant reference to the previous "Progress Report," in certain places, not very numerous, extracts from the latter have been incorporated in the present report. It then proceeds as follows:—

> Since this further report contains a good deal of detail which may make it difficult to pick out easily the salient points, it may be well to point out at the outset that this report brings forward evidence to show:—
>
> 1. That sleeping sickness is caused by the entrance into the blood and cerebro-spinal fluid of a species of trypanosoma.
>
> 2. That this species is probably that discovered by Forde and described by Dutton from the West Coast of Africa and called by him *trypanosoma Gambiense*.
>
> 3. That the so-called cases of trypanosoma fever described from the West Coast may be, and probably are, cases of sleeping sickness in the earliest stages.
>
> 4. That monkeys are susceptible to sleeping sickness and show the same symptoms and run the same course, whether the trypanosomes injected are derived from cases of so-called trypanosoma fever or from the cerebro-spinal fluid of cases of sleeping sickness.
>
> 5. That dogs and rats are partially susceptible, but that guinea-pigs, donkeys, oxen, goats, and sheep, up to the present have shown themselves absolutely refractory.
>
> 6. That the trypanosomes are transmitted from the sick to the healthy by a species of tsetse fly, *Glossina palpalis*, and by it alone.
>
> 7. That the distribution of sleeping sickness and *Glossina palpalis* correspond.
>
> 8. That sleeping sickness is, in short, a human tsetse fly disease.

Many questions referred to in the Progress Report are elaborated in the report now under consideration. For instance, on the interesting point as to whether the so-called trypanosoma fever has any connexion with sleeping sickness the report states:—

> On the West Coast of Africa, during the past few years, trypanosomes have been found in the blood of several persons and the name trypanosoma fever has been given to that disease. The parasites have not been confined to the blood of natives, but at least three white people have harboured them. No suspicion of these being cases of sleeping sickness has been entertained by those in medical charge of them. The symptoms are different. Trypanosoma fever appears to cause little or no inconvenience to those harbouring the parasite, whereas in sleeping sickness the disease is a well-marked one and is invariably fatal. Can there be any connexion between the two?
>
> In March last Dr. Baker of the Colonial Service, who is stationed here, discovered trypanosomes in the blood of five natives, and Dr. Moffat, the principal medical officer, has also found them in the blood of a European.

Illustrative cases are given which go to show that there is probably a close connexion between the two diseases.

Another necessary point to determine was: "Does the blood of the general population contain trypanosomes?" On May 16th the commission received a telegram from the Royal Society, asking for statistics regarding the prevalence of trypanosomes in the general population (*a*) inside and (*b*) outside the sleeping sickness area. On a little consideration the importance of such an inquiry is seen. If the trypanosoma found in the blood of patients suffering from trypanosoma fever belongs to the same species as that found in sleeping sickness, then a larger percentage of the general population inside the sleeping sickness area should be found to harbour trypanosomes than those living in the non-sleeping sickness area. In fact, if the supposition be true there ought not to be a single trypanosoma found in the blood of persons living in a clean area. Because, if the theory that trypanosomes in the blood is merely the first stage of sleeping sickness be true, then all the cases in the non-sleeping sickness area cannot be in the initial stage, but scattered among them the observer would naturally expect to find some in the more advanced stage. In Entebbe the hut-tax labourers supply ample material for such an investigation. There were some 1500 employed there and they came from all parts of the Protectorate. They remained at work in Entebbe for one month and then returned to their homes. During that time they were liable to contract sleeping sickness, but for the purpose of this inquiry natives from non-sleeping sickness areas, who had only been a few days in Entebbe, were chosen. Captain Greig also went over to Nairobi, in British East Africa, and examined 50 cases in an undoubted non-sleeping sickness area. The results of these examinations are given in accompanying lists in the report. These will be useful six months or a year hence in order to trace out and to learn the fate of the men whose blood now show trypanosomes, but who at present have no symptoms of sleeping sickness. 80 natives from the sleeping sickness area were examined, with the result that 23 were found to have trypanosomes in their blood, giving a percentage of 28·7. 117 were examined from non-sleeping sickness areas, but not a single trypanosoma was found. We agree that these results suggest that the trypanosomes found in the blood of seemingly healthy persons and in the cerebro-spinal fluid of sleeping sickness cases are identical and, further, that these trypanosomes are, in truth, the cause of the disease.

It is also natural to inquire whether any difference can be made out microscopically between the trypanosoma of sleeping sickness and that of trypanosoma fever. In the progress report it was stated that it would appear that the trypanosomes found in sleeping sickness are shorter, have chromatic dots more frequently, and the micronucleus is situated nearer the end than in the other. Since the above was written an observation has been made which would seem to do away with any significance which the above differences in size and shape may seem to have. It is that trypanosomes from the cerebro-spinal fluid injected into the blood of monkeys become quite as long as the trypanosomes found in the blood of man, and the other differences also disappear. This would go to show that the trypanosomes merely find the cerebro-spinal fluid not as favourable for their growth as the blood and on this account are stunted.

An important series of observations was made to ascertain whether the trypanosomes are pathogenic to animals and whether any specific difference can be made out between them by means of suitable tests. A full report of the results of inoculations is given and forms a record from which valuable conclusions can be formed. The animals available for inoculation were monkeys, dogs, guinea-pigs, rats, donkeys, oxen, sheep, and goats. No animal was found which showed any marked susceptibility to the disease or in which the disease runs a rapid acute course, as is the case in nagana. The monkeys proved most useful and were injected subcutaneously, into the vertebral canal, and through the foramen magnum into the brain cavity with cerebro-spinal fluid and blood from many sources. Animals were inoculated with trypanosomes from the spinal fluid of persons suffering from sleeping sickness and from the blood of individuals who showed no symptoms of the disease. We quote an experiment from each class of case:—

EXPERIMENT 1.—Monkey, male, pale-faced variety (*Macacus rhesus*). To note the effect of the subcutaneous injection of cerebro-spinal

fluid containing trypanosomes from a case of sleeping sickness, March 23rd, 1903. Injected 10 cubic centimetres of cerebro-spinal fluid taken post mortem from Case 18 under the skin of the left side of the monkey. May 11th. As the injection of cerebro-spinal fluid on March 23rd has not given positive results this monkey was again injected under the skin with two cubic centimetres of cerebro-spinal fluid from Case 41. May 28th. Trypanosomes were found in the blood for the first time; this is evidently due to the second injection 17 days ago. June 3rd. This monkey has been ill during the last week and has gradually been growing thinner and weaker. This afternoon he had a convulsive seizure which affects the right side more than the left; he has clonic spasms of the right arm and leg with twitching of the face and eyes. June 4th. The trypanosomes are numerous in the blood. His condition has considerably improved. There is no sign of paralysis. The right knee-jerk is diminished. He is able to climb into his box. June 5th. He is quite lively to-day. June 11th. The trypanosomes are still more numerous. June 18th. The trypanosomes are scanty. June 23rd. During the last ten days this monkey has shown symptoms of sleeping sickness. He sits all day long with his head sunk on his chest, evidently asleep. July 10th. Since the last entry the appearance of sleeping sickness has become more marked. The animal sits still all day with eyes closed and head sunk on chest. He is extremely emaciated but has no marked signs of paresis. He can still climb into his box. As he sits in this lethargic condition the muscles of the arms and trunk frequently show marked twitching, a symptom often seen in the last stages of sleeping sickness. July 12th. Died at 11.30 A.M.

The following table shows the presence or absence of trypanosoma in the blood:—

Date.	Parasites in blood.		
	Filaria.	Malaria.	Trypanosoma.
1903.			
April 7th		–	–
,, 8th		–	–
,, 9th		–	–
,, 11th		–	–
,, 14th			–
,, 22nd	–	–	–
,, 30th	–	–	–
May 7th			–
,, 14th		–	–
,, 21st		–	–
,, 28th		–	+
June 4th		–	+
,, 11th		–	+
,, 18th		–	+
,, 25th		–	+
July 1st		–	+
,, 10th		–	+

Post-mortem immediately after death. The body is extremely emaciated. There is an ulcer in the right groin of about the size of a shilling. The inguinal and axillary glands are enlarged. The mucous membranes are pale. The right pupil is dilated, the left is normal. On opening the body the omentum is seen to be studded thickly with hard tubercular nodules and the surface of the liver and lungs are also seen to be tubercular. On removing the calvarium the dura mater is found to be healthy. On the surface of the left cerebral hemisphere there is seen a caseous mass of about the size of a bean which is adherent to the dura mater and evidently tuberculous in origin. The surface of the brain is pale in colour and the vessels are only slightly injected. Unfortunately, owing to an accident, the brain was not preserved for more minute examination. Microscopical examination of blood from the heart showed numerous trypanosomes.

Remarks.—During life this animal presented the appearance of a typical sleeping sickness case. Even when in the act of eating his eyes would close, his head fall forward on his chest, and he would sit apparently sound asleep. It was disappointing to find on post-mortem examination that the animal was tubercular. It is to be regretted that the brain was not preserved, also that no examination of cerebro-spinal fluid was made for trypanosomes. Nevertheless, when this case is placed beside Experiment 60 (see below) and the two are compared, it will be agreed that this monkey owed its symptoms to the trypanosomes and not to the tubercle.

This pale-faced variety was brought by us from England and none of them harbour malarial parasites as most of the local black-faced variety do. They seem to be more susceptible to the trypanosomes than the local species.

EXPERIMENT 60.—Monkey (*Macacus rhesus*). To note the effect of the subcutaneous injection of blood from a case of trypanosoma fever. April 15th. Injected subcutaneously two cubic centimetres of blood containing trypanosomes from Case 66. May 7th. Trypanosomes appeared in the blood for the first time, 22 days after injection. May 14th. The hæmatozoa are noted as being very numerous. July 2nd. Up to the present this monkey has shown no signs of being ill. To-day, however, he appears listless and less energetic. Temperature observations resumed. July 15th. For the last fortnight this monkey has presented the same picture of sleeping sickness as noted in the case of Experiment 1, monkey. He sits about all day with his head sunk on his chest, evidently asleep. He has become emaciated and to some extent puffy and cyanosed about the face. July 16th. Died at 10 A.M.

The following table shows the presence or absence of trypanosomes in the blood and cerebro-spinal fluid:—

Date.	Parasites in blood.			Parasites in cerebro-spinal fluid	
	Filaria.	Malaria.	Trypanosoma.	Filaria.	Trypanosoma.
1903.					
April 15th		–			
,, 23rd	–	–	–		
,, 30th	–	–	–		
May 7th		–	+		
,, 14th		–	+		
,, 21st		–	+		
,, 28th		–	+		
June 4th		–	+		
,, 11th		–	+		
,, 20th		–	+		
,, 25th		–	+		
July 1st		–	+		
,, 16th		–	+		+

Post mortem immediately after death. The body is much emaciated. The pupils are equal and normal. The axillary, inguinal, and lymphatic glands are enlarged. On opening the body there is no fluid found in the peritoneal, pericardial, or pleural cavities. There are no signs of tubercle in the mesentery, spleen, liver, or lungs. On removing the calvarium the dura mater is found to be normal. On reflecting this membrane the surface of the brain presents a striking resemblance to that found in man in cases of sleeping sickness. The convolutions are flattened; there is some injection of the superficial vessels; the subarachnoid fluid is in excess, filling up the sulci and giving them the ground-glass appearance so often described in cases of sleeping sickness. Fluid taken from the lateral ventricle and examined microscopically shows trypanosomes. The brain was removed entire and preserved for future minute examination. The heart is normal in appearance. Blood taken from it and examined microscopically shows many living trypanosomes, many of which present peculiar forms rarely met with. The lungs show no signs of tuberculosis. They are somewhat congested, otherwise normal. The liver is congested and presents a nutmeg appearance. The spleen is large, dark in colour, and firm in consistence. The kidneys are normal. The intestines appear healthy and present nothing noteworthy macroscopically.

Remarks.—This is a noteworthy case and should be compared with monkey, Experiment 1 (see above). As far as one could judge this animal presented the typical appearance of sleeping sickness during life and the brain after death looked like the usual sleeping sickness brain in miniature. The organs showed no disease, so that one is bound to look upon the injected trypanosomes as the cause of death. But the trypanosomes which were injected subcutaneously into this monkey were taken from the blood of a case of trypanosoma fever who, up to the present (August), has shown no signs of sleeping sickness. The trypanosomes, although injected subcutaneously, have found their way into the cerebro-spinal fluid and given rise to symptoms which closely resemble sleeping sickness in man. This result is certainly suggestive and, in our opinion, goes far to prove that we are dealing with one species of trypanosoma and that Case 66 and the others are in the incipient stage of sleeping sickness.

Trypanosomes were also injected into dogs, but the native dog in Uganda is not very suitable as an experimental animal. Many of them die from ankylostomiasis before the experiment is finished and this disease is so common among them that it is difficult to obtain one free from it. The conclusion arrived at from a study of the few cases under observation was that the trypanosomes of sleeping sickness and trypanosoma fever can live and multiply for some time in the blood of the dog but tend to disappear sooner or later and that they show no difference in their action on the dog. Further, it would seem that a puppy is less susceptible than an adult, just as the calf is less susceptible to piroplasma than grown-up cattle.

Accounts are also given of the effect of the injection of trypanosomes into guinea-pigs, donkeys, oxen, sheep and goats. For the results of these experiments we refer our readers to the original reports.

The question is then asked: Are we dealing with one or more than one species of trypanosoma? As has been shown, no morphological difference can be made out between the trypanosomes found in the cerebro-spinal fluid of cases of sleeping sickness and those found in the blood of persons evidently in good health. Neither can any difference be detected in their behaviour when inoculated into various animals. More experiments are required and more results obtained before this question can be answered unhesitatingly but at present the evidence distinctly tends to show that we are dealing with one species of trypanosoma and that species

is probably trypanosoma Gambiense, discovered by Forde and described and named by Dutton.

The next subject dealt with is the history and distribution of sleeping sickness in Uganda. The report proceeds:—

According to Dr. R. U. Moffat, C.M.G.,[1] principal medical officer, British East Africa and Uganda Protectorates, the first cases of sleeping sickness in Uganda were reported by the Drs. Cook, C.M.S. Medical Mission, Mengo, in April, 1901. These cases came from Busoga. On Dr. Moffat's return from leave in April, 1902, he was surprised to find that the disease had become epidemic in Busoga and that it had spread into the neighbouring parts of Uganda and Kavirondo.

He is of opinion that the disease is not indigenous to Uganda, but has been imported during recent times from the Congo basin. This, he thinks, "is no matter for surprise when we consider that the opening up of equatorial Africa has led to intercommunication between countries and districts which in earlier days were absolutely cut off from each other." He is inclined to explain the first appearance of the disease in Busoga by the fact that a large number of Emin Pasha's Soudanese, accompanied by a multitude of slaves from the Congo territories west of Lake Albert were brought in and settled in Busago. Dr. Hodges, who studied the question in Busago, thinks it first broke out there in 1896. Be this as it may, the disease is now widely spread round the northern shores of the Victoria Nyanza from Buddu on the west to south of Kavirondo Bay on the east. As far as I am aware the disease has not yet entered German territory.

As the first Sleeping Sickness Commission sent out by the Royal Society made this part of the subject—the distribution of the disease—an object of special investigation, it was thought unnecessary to pursue the subject further. Full details of the work done are not at present available, but for the purposes of this report it may be stated that this disease has a remarkable distribution, being confined to the lake shore and to the islands. How wide the strip of lake shore affected by the disease is differs in different parts.

Mr. Cubitt, assistant collector, Busoga, who investigated the distribution of the disease in his district, in a report to the commissioner, dated Jinja, June 14th, 1902, says, "It would seem to be a fairly accurate statement to make that sleeping sickness confines itself to the territories adjoining the lake, roughly speaking, from a ten to 20 mile radius of the coast, and that the people living further inland suffer in proportion to the greater or less trading transactions they have with the people living within that radius, while in those who have no trading transactions with the people of the lake there are found no traces of the disease." In the opinion of the Uganda Prime Minister, Apolo, a strip ten to 15 miles wide would cover the affected area and any cases found further inland are imported. The numerous islands which lie near the northern shores of the lake are also the seat of the disease. Between these islands and the mainland and for several miles inland a constant interchange of commodities and intercourse between the natives takes place.

There must be some reason for this peculiar distribution. It cannot be due to a food poison, as the natives outside this narrow strip have the same habits. Then, again, if the trypanosomes are the cause of the disease, which there is every reason to suspect, the infection cannot be conveyed in food or clothes or directly from man to man, but most probably must be carried by some blood-sucking insect. This led the commission to ask themselves the following question: Does the distribution of sleeping sickness coincide with the distribution of any biting insect? On the analogy of nagana a tsetse fly was suspected. But the tsetse was not supposed to be present at altitudes of 3000 feet and upwards, nor was it known to be found in Uganda.[2] A short search in the Botanical Gardens, Entebbe, disposed of these objections. A tsetse fly very similar to the one met with in the fly country, Zululand, was found in numbers. For three months we have had on an average 400 tsetse flies brought into the laboratory every day by a few native children. These flies were caught on the lake shore in the immediate vicinity of Entebbe. This gave a lead. The Prime Minister and Regents were asked to meet the commission and have the matter explained to them. They at once recognised the fly as one known to the Muganda as kivu and said that it was found along the shores of the lake.[3] They were supplied with several dozen nets, killing bottles, and boxes and on their part promised to have the distribution of the fly worked out. A letter was also addressed to the Bishops of Uganda, who kindly promised to obtain information from their missionaries. Every official and missionary in the country was then sent a specimen of the tsetse fly and informed by letter as follows:—

"Sleeping sickness in many ways, is very similar to the fly disease of South Africa. It is caused by the same kind of parasite and is possibly carried from man to man by some insect as the fly disease is carried by the tsetse fly (*Glossina pallidipes*). A species of tsetse fly (*Glossina palpalis*) is also found in Uganda, especially along the shores of the lake and in the islands. It is possible that this fly acts as the carrier of the infective agent of sleeping sickness. If this is so the disease can only occur in places where the fly is found. In other words, no tsetse fly, no sleeping sickness.

"In order to settle this question the distribution of this fly must be carefully worked out. To assist in this would you kindly send collections of biting flies from your district and answer the following questions: (1) Is the tsetse fly (*Glossina palpalis*) found in your district? (2) In what kind of place is the fly found—marsh, banana plantation, bank of river, shore of lake, forest, bush, or open places? (3) When does it bite, during the morning, mid-day, or at night? (4) Is it numerous? (5) What animals does it bite? (6) Does sleeping sickness occur in the same place, distinguishing, of course, between imported cases and those which have been infected on the spot?

"The best way to catch the flies is by means of a small butterfly net. They can then easily be killed by a squeeze and placed in a small envelope with the name of the place and date of capture written on it. I may add that the natives call the fly kivu, plural bevu. It is important that the position of the place in which these tsetse flies are found should be exactly laid down. This can be done by giving the latitude and longitude in degrees and minutes or by saying how many miles it is from a known place in a westerly or S.S.W., &c., direction. Still better would it be to make a tracing of the district and on this to map out the distribution of the fly and of the sickness. It is no use trusting to report. The flies themselves must be caught and sent here for identification. The natives use the word kivu for several varieties of biting flies. If no tsetse flies are found in the district please send specimen of any of the various biting bites or insects known to the natives."

During June, July, and August some 460 collections of biting flies were sent in from all parts of the Uganda. As each package came in the contents were sorted into tsetse flies and other biting flies. If the parcel contained one or more tsetse flies a round red disc was stuck on a map over the locality from which the flies had been sent. If, on the other hand, no tsetse were found a blue disc was fixed over the spot. In the same way and at the same time a second map was prepared to show the distribution of sleeping sickness. That is to say, if the note on a parcel of flies stated that sleeping sickness is prevalent then a red disc was placed over the locality, and if, on the contrary, no cases of sleeping sickness were reported a blue disc was affixed. Where cases were reported to have been introduced from some other locality and to have died out without any spread of the disease in the neighbourhood, then a yellow disc was used.

It is evident that two maps so prepared should show at a glance whether the distribution of sleeping sickness and *Glossina palpalis* corresponds or not. The accompanying maps (see Figs. 1 and 2) are taken from the originals. They are reduced to one third the size of the larger maps and the blue discs above mentioned are replaced by black. On comparing these two maps the similarity of the distribution of sleeping sickness and *Glossina palpalis* is self-evident. The disease and the fly are limited to the shores of the lake and to the islands, except in Busoga where some of the red dots are seen in the centre of the district. The fly is also seen to pass up the Nile. This is probably due to the fact that the Nile is a great broad waterway, where it issues from the lake at the Ripon Falls and may be looked upon in its physical characters as an arm of the lake. The other Uganda rivers are mere swamps full of papyrus. As it appeared important personally to examine one of these so-called rivers to discover how far the tsetse fly could be traced up their valleys one of us (Dr. Nabarro) proceeded on July 4th to explore the Katonga river. An account of this expedition is given by Dr. Nabarro as follows:—

"This expedition proceeded by canoes from Entebbe to the Island of Bussi. The tsetse fly was not sought here as it had been previously found by Colonel Bruce. Then it visited the islands Zinga and Bunjako, in both of which the tsetse fly was easily found along the shore of the lake where there was forest and short grass. Sleeping sickness is prevalent on all three islands. Buganga was the next place visited and here, too, the tsetse fly was found as well as large numbers of tabanidæ. Sleeping sickness is prevalent in Buganga. We left Buganga and sailed round the Katonga bay to see if there were any channel up the Katonga river but we could find none, the so-called river being a papyrus swamp about 1200 yards wide. We then went further on and landed near Magambo where forest comes down to the edge of the lake. Here, too, the tsetse flies were caught in numbers and there were several cases of sleeping sickness in the neighbourhood. From Magambo we marched across the Kibikuta river (1800 yards wide) about two miles from where it enters the Victoria Nyanza. No tsetse flies were found there. Thence we marched to the Katonga river, which like the Kibikuta is merely a papyrus swamp. The left bank of the Katonga was explored from the lake shore, close to the mouth of the river, to a point about 13 or 14 miles up the river and no tsetse flies were seen. So far as I was able to ascertain there is no sleeping sickness in this district.

"The return journey to Entebbe was made by road, passing through Metala Maria and Kianjia. In neither of these villages were any tsetse flies found, though stomoxys and other biting flies exist in large numbers. These two villages are situated about two to three miles from the shore of the lake, which here consists of a vast papyrus swamp between the mainland and adjacent Islands Bunjako, Zinga, and Bussi. No tsetse flies were found on the shore close to this swamp. There is no sleeping sickness at Metala Maria or Kianjia. From Kianjia we went along the main road to Karabara (five and a half miles distant), where we found no tsetse flies and where there is no sleeping sickness. We then travelled by the porters' road for ten miles, viâ Busami and Gabongas, and did not find any tsetse flies until we reached the shore of the lake at 'the ferry,' near Entebbe. Here many flies were easily caught in the dense forest that there runs along the lake shore. I was informed that there were several cases of sleeping sickness in the 'Shambas' near the lake shore, but that there were none in the interior—at Busami or Gabongas."

The main points of interest in Dr. Nabarro's account are that the fly does not proceed up the swampy river valleys and that even on the coast behind papyrus swamps it is also absent. On the map this journey is shown by a series of red dots on the islands and on the shore at the mouth of the Katonga river, and by blue dots up the river and along the shore behind the islands. The space between the islands and the mainland is one huge papyrus swamp. In order to work out more minutely the habits of the *Glossina palpalis*, the peninsula on which Entebbe stands was taken in detail and carefully searched for the fly. The result of this showed that the fly is only found on the shore of the lake where there is forest. This forest is thick jungle with high trees and dense undergrowth. The fly is never found on open sandy beaches backed by grass plains, even although there may be some small scrub near the water's edge. It is never found in the grass of the grassy plains, even though the grass be long and tangled. It has not been found by us in banana plantations, nor at any time far from the lake shore.

[1] Foreign Office Despatch, August 5th, 1902, Inclosure 2—Preliminary Notes on Sleeping Sickness by the Principal Medical Officer, June 17th, 1902. Inclosures 3 and 4—Dr. Hodges to Dr. Moffat, May 8th, 1902, and May 26th, 1902.

[2] Since the above was written I find that Mr. F. J. Jackson in a despatch to the Foreign Office, dated Sept. 27th, 1901, writes, "I may add that there is a species of tsetse fly found along the wooded portion of the lake shore here at Entebbe. It is plentiful in the Botanical Gardens."

[3] The tsetse flies found near Entebbe were sent to Professor Ray Lankester, the director of the British Museum (Natural History), on March 25th and identified by Mr. E. E. Austen as *Glossina palpalis* (Rob. Desv.). He writes: "This is the West African species and its occurrence in Uganda is very interesting and was quite unexpected by me, though it is true that another species—*Glossina fusca*—occurs both in West and East Africa."

DISTRIBUTION OF SLEEPING SICKNESS AND GLOSSINA PALPALIS IN UGANDA.

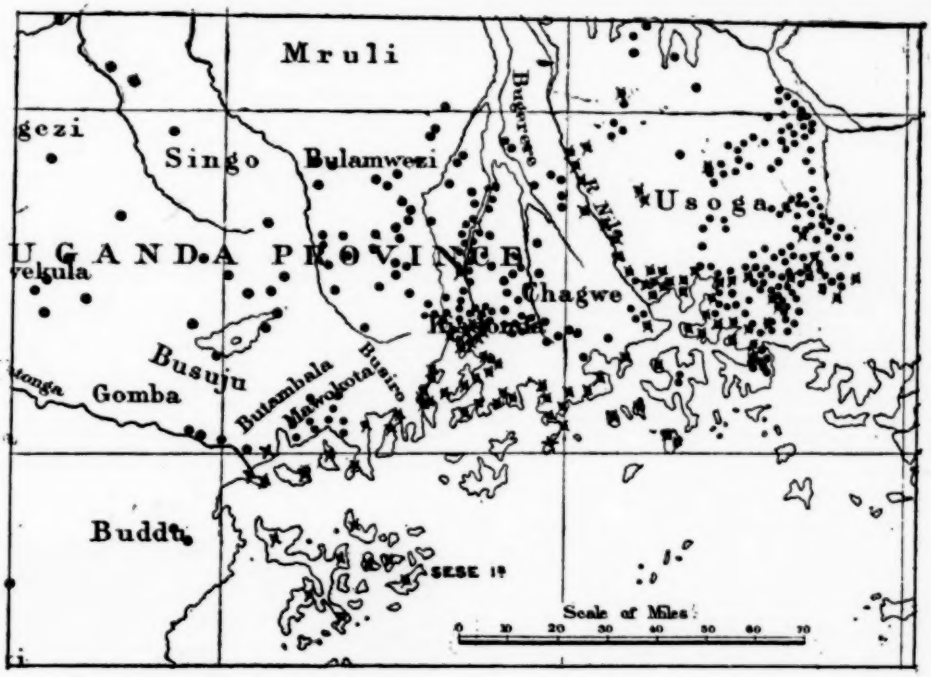

FIG. 1.—The stars show the localities of the tsetse fly; the dots indicate the other biting flies.

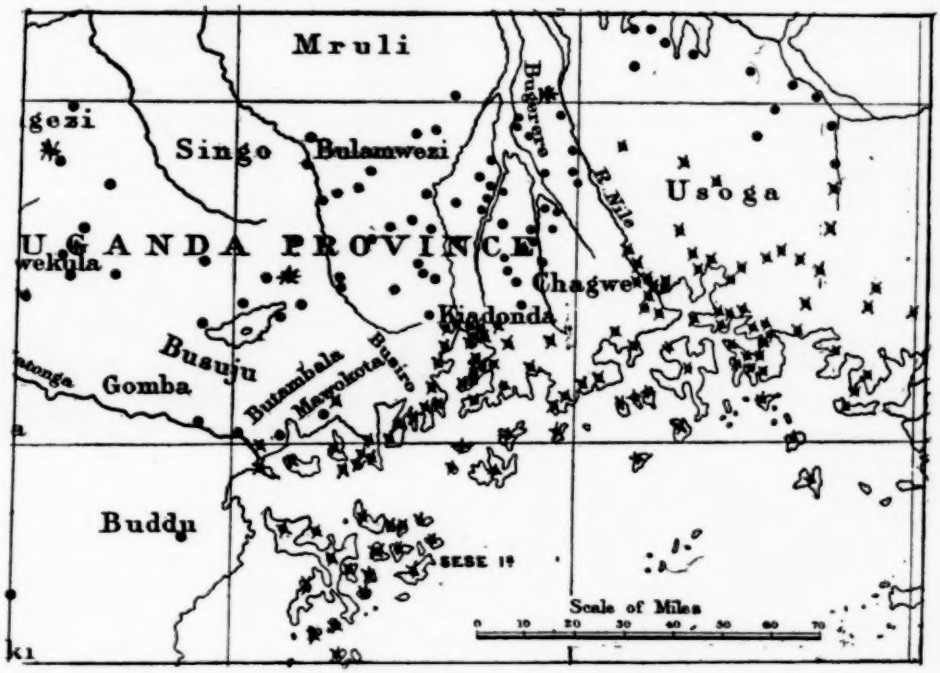

FIG. 2.—The stars show the localities of sleeping sickness, the dots its absence. The three larger stars represent imported cases.

The habitat, then, of this fly in the neighbourhood of Entebbe is the shore of the lake where there is forest. In Uganda generally the same seems to hold good. In Busoga, on the other hand, it appears to be found inland, but what the physical characters of this province are which would account for this I have not learnt. The fly also passes down the Nile as far as Kakoge ferry some 50 miles north of the Ripon falls and it has even been received from Fajao on the Somerset Nile and from Tengri and the Achwa river, still further north and near Wadelai. It is important that the distribution of this fly should be fully worked up, but enough has been done to show that the distribution of this species of tsetse fly is, like sleeping sickness, confined to the shores of the lake and the islands. It is on the densely wooded shore of the lake that the half-naked natives of the mainland and islands meet in thousands to trade in fish, bananas, earthenware, &c. If the *Glossina palpalis* can act as a carrier of the trypanosoma of sleeping sickness, the circumstances could not be made more favourable than they are for the spread of the disease.

A series of experiments was next instituted to ascertain whether the Uganda tsetse fly (*Glossina palpalis*) can carry the trypanosoma found in cases of sleeping sickness to healthy animals. The animal chosen to carry out these experiments was the monkey. These are by far the most suitable animals to work with. They are easily procured, easily fed, and keep their health perfectly in captivity. The method used was simply to feed tsetse flies on a patient suffering from sleeping sickness and at varying intervals of time to place the same cage of flies on the monkey. The sleeping sickness patients did not seem to feel the bites of the flies, as they made no complaint or other signs of inconvenience. There were, as a rule, about 30 flies in each cage, but only those which filled themselves were reckoned as having fed. After certain details as to the methods adopted, the report continues:—

As the result of five experiments it may be considered proved that *Glossina palpalis* can convey trypanosomes from sleeping sickness cases to healthy monkeys up to at least 48 hours after feeding. We have seen that every third or fourth native in the sleeping sickness area carries trypanosomes in his blood, so that the fly has plenty of material to draw from. It may be objected that the parasites are so scarce in the blood that it is unlikely the fly will get hold of them. The same objection might be urged in regard to nagana, whose trypanosoma is probably scarcer in the blood of the wild animals than is the case in sleeping sickness. No doubt cases do occur among sleeping sickness patients, though rarely, in which the trypanosomes are fairly numerous. It is thought that they may be more numerous in the early stages when still confined to the blood than in the later stage of sleeping sickness. The observations on this point are as yet neither numerous nor exact enough to warrant any dogmatic statement.

The next series of experiments was made to find out if the ordinary wild tsetse flies, freshly caught and placed on healthy monkeys without any artificial feeding, will give rise to the disease. This is a still more important point and in this also the experiments are given in full. The flies were caught on the shore of the lake in the vicinity of Entebbe and when brought to the laboratory were immediately placed on healthy monkeys.

The following shows the results of one of the experiments:—

EXPERIMENT 94.—Monkey (*Cercopithecus* sp.). To ascertain if tsetse flies, freshly caught in the vicinity of Entebbe, are carrying trypanosomes.

May 13th, 1903.	Blood examined.	No trypanosomes.	No malaria.		
May 13th	... Fed 31 flies.*		May 19th	... Fed 20 flies.	
,, 15th	... ,, 15 ,,		,, 20th	... ,, 13 ,,	
,, 18th	... ,, 10 ,,		,, 21st	... ,, 16 ,,	
Blood examined.	Trypanosoma absent.	Malaria absent.			
May 22nd	... Fed 20 flies.		May 25th	... Fed 31 flies.	
,, 23rd	... ,, 25 ,,		,, 26th	... ,, 18 ,,	
,, 24th	... ,, 17 ,,		,, 27th	... —	
Blood examined.	Trypanosomes *present*.	Malaria absent.			

* Freshly caught near Entebbe.

Three experiments (including the one we have quoted) gave positive results. To quote further from the report:—

The flies were caught in the vicinity of the hut-tax labourers' camp. These men to the number of thousands come to Entebbe and work for Government for one month in lieu of paying hut-tax. They live in rudely built grass huts near the shores of the lake, about a mile from Entebbe along the Kampala-road. Tsetse flies caught at this place and brought in cages to the laboratory have conveyed trypanosomes to three monkeys. What could be more suggestive? It is true that the trypanosoma conveyed to these monkeys may be a different species from that found in sleeping sickness, but taking everything into consideration the probabilities are that it is the same.

If this is so it would be interesting and instructive to know what percentage of the hut-tax labourers develop this disease on their return to their homes. It may possibly be an extremely small figure as these men are only exposed to the risk for a month and, as a rule, their work lies in the town where tsetse flies are never found. This is very different from the case of the natives who live all their lives on the edge of the lake and are exposed all the year round to the infection. In our opinion, if these hut-tax labourers were camped on suitable ground there would be little or no danger in their coming into Entebbe to do a month's work.

Up to the present we have received very few notices of the occurrence of cases of sleeping sickness, in non-sleeping sickness areas, supposed to have been contracted in Entebbe or on the lake shore. Five cases are reported by the White Fathers to have occurred at Kiambalangos Place, south of Hoima, and three cases in Bwekula by Mr. Lewin. These men are stated to have contracted the disease round about the Victoria Lake and have all died out without spreading the disease. Another curious case is reported by Major Harrison, K.A.R., at Nairobi, in British East Africa. The man was a bugler named Mahomed. He left Uganda in May, 1900, enlisted at Nairobi, British East Africa, on Nov. 7th, 1900, and died of sleeping sickness Feb. 18th, 1902. Dr. Wiggins also relates the case of an Askari or native policeman named Sullivan Khair, stationed at Fort Ternan, British East Africa, for two and a half years before he developed the disease. He came from Entebbe and except for a visit to Jinja, Busoga, 14 months before he died, he had not left Fort Ternan. Neither of these men set up infection among their comrades.

These cases hint at a long incubation period when the trypanosoma is confined to the blood and also to the need of the tsetse fly to act as intermediary between the sick and healthy.

In an appendix clinical reports of several cases are given. We append a typical one together with the reproduction of a photograph of the patient.

CASE 21.—Kidorme (male). Age 20. District, Bussi. Occupation, Leadworker. Food, Fish, Sweet Potatoes, and Bananas.

March 24th, 1903. Admitted to hospital. Patient states that his illness began with cough and pain in his chest and that he has been ill about three months.

April 7th. He is weak on his legs, being only able to totter along. There is tremor of the fingers. His pupils are equal and normal. His speech is indistinct, weak, and monotonous.

April 22nd. *General condition.*—He is well nourished. His gait is weak and uncertain; he walks carefully with bent legs. He is intelligent and the expression of his face is fairly bright. There is no œdema anywhere. The mucous membranes are normal. No trophic changes.

FIG. 3.

A case of sleeping sickness.

Lymphatic glands are generally enlarged, about the size of beans in the inguinal region. He does not complain of any pain. *Nervous system.*—Intelligence and memory are good. He lies about all day but does not sleep much during the day. Speech rather weak and indistinct. Eyes normal. Tongue jerky. Tremor of lips and hands and generally of body. His sensibility to touch is normal, as also is his muscle sense. Knee-jerks are present. Ankle clonus absent. *Alimentary system.*—His appetite is good; tongue moist, furred; and gums are healthy. The liver and spleen are not enlarged. Bowels regular with use of medicine. *Circulatory system.*—Apex beat is imperceptible. Heart sounds weak. No bruit. Pulse 120; small, tension low, compressible, rhythm irregular. *Respiratory system.*—Nothing abnormal. *Cutaneous system.*—Nothing abnormal.

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The habitat, then, of this fly in the neighbourhood of Entebbe is the shore of the lake where there is forest. In Uganda generally the same seems to hold good. In Busoga, on the other hand, it appears to be found inland, but what the physical characters of this province are which would account for this I have not learnt. The fly also passes down the Nile as far as Kakoge ferry some 50 miles north of the Ripon falls and it has even been received from Fajao on the Somerset Nile and from Tengri and the Achwa river, still further north and near Wadelai. It is important that the distribution of this fly should be fully worked up, but enough has been done to show that the distribution of this species of tsetse fly is, like sleeping sickness, confined to the shores of the lake and the islands. It is on the densely wooded shore of the lake that the half-naked natives of the mainland and islands meet in thousands to trade in fish, bananas, earthenware, &c. If the *Glossina palpalis* can act as a carrier of the trypanosoma of sleeping sickness, the circumstances could not be made more favourable than they are for the spread of the disease.

A series of experiments was next instituted to ascertain whether the Uganda tsetse fly (*Glossina palpalis*) can carry the trypanosoma found in cases of sleeping sickness to healthy animals. The animal chosen to carry out these experiments was the monkey. These are by far the most suitable animals to work with. They are easily procured, easily fed, and keep their health perfectly in captivity. The method used was simply to feed tsetse flies on a patient suffering from sleeping sickness and at varying intervals of time to place the same cage of flies on the monkey. The sleeping sickness patients did not seem to feel the bites of the flies, as they made no complaint or other signs of inconvenience. There were, as a rule, about 30 flies in each cage, but only those which filled themselves were reckoned as having fed. After certain details as to the methods adopted, the report continues:—

As the result of five experiments it may be considered proved that *Glossina palpalis* can convey trypanosomes from sleeping sickness cases to healthy monkeys up to at least 48 hours after feeding. We have seen that every third or fourth native in the sleeping sickness area carries trypanosomes in his blood, so that the fly has plenty of material to draw from. It may be objected that the parasites are so scarce in the blood that it is unlikely the fly will get hold of them. The same objection might be urged in regard to nagana, whose trypanosoma is probably scarcer in the blood of the wild animals than is the case in sleeping sickness. No doubt cases do occur among sleeping sickness patients, though rarely, in which the trypanosomes are fairly numerous. It is thought that they may be more numerous in the early stages when still confined to the blood than in the later stage of sleeping sickness. The observations on this point are as yet neither numerous nor exact enough to warrant any dogmatic statement.

The next series of experiments was made to find out if the ordinary wild tsetse flies, freshly caught and placed on healthy monkeys without any artificial feeding, will give rise to the disease. This is a still more important point and in this also the experiments are given in full. The flies were caught on the shore of the lake in the vicinity of Entebbe and when brought to the laboratory were immediately placed on healthy monkeys.

The following shows the results of one of the experiments:—

EXPERIMENT 94.—Monkey (*Cercopithecus* sp.). To ascertain if tsetse flies, freshly caught in the vicinity of Entebbe, are carrying trypanosomes.

May 13th, 1903. Blood examined. No trypanosomes. No malaria.

May 13th	...	Fed 31 flies.*	May 19th	...	Fed 20 flies.
,, 15th	...	,, 15 ,,	,, 20th	...	,, 13 ,,
,, 18th	...	,, 10 ,,	,, 21st	...	,, 16 ,,

Blood examined. Trypanosoma absent. Malaria absent.

May 22nd	...	Fed 20 flies.	May 25th	...	Fed 31 flies.
,, 23rd	...	,, 25 ,,	,, 26th	...	,, 18 ,,
,, 24th	...	,, 17 ,,	,, 27th	...	—

Blood examined. Trypanosomes *present*. Malaria absent.

* Freshly caught near Entebbe.

Three experiments (including the one we have quoted) gave positive results. To quote further from the report:—

The flies were caught in the vicinity of the hut-tax labourers' camp. These men to the number of thousands come to Entebbe and work for Government for one month in lieu of paying hut-tax. They live in rudely built grass huts near the shores of the lake, about a mile from Entebbe along the Kampala-road. Tsetse flies caught at this place and brought in cages to the laboratory have conveyed trypanosomes to three monkeys. What could be more suggestive? It is true that the trypanosoma conveyed to these monkeys may be a different species from that found in sleeping sickness, but taking everything into consideration the probabilities are that it is the same.

If this is so it would be interesting and instructive to know what percentage of the hut-tax labourers develop this disease on their return to their homes. It may possibly be an extremely small figure as these men are only exposed to the risk for a month and, as a rule, their work lies in the town where tsetse flies are never found. This is very different from the case of the natives who live all their lives on the edge of the lake and are exposed all the year round to the infection. In our opinion, if these hut-tax labourers were camped on suitable ground there would be little or no danger in their coming into Entebbe to do a month's work.

Up to the present we have received very few notices of the occurrence of cases of sleeping sickness, in non-sleeping sickness areas, supposed to have been contracted in Entebbe or on the lake shore. Five cases are reported by the White Fathers to have occurred at Kiambalangos Place, south of Hoima, and three cases in Bwekula by Mr. Lewin. These men are stated to have contracted the disease round about the Victoria Lake and have all died out without spreading the disease. Another curious case is reported by Major Harrison, K.A.R., at Nairobi, in British East Africa. The man was a bugler named Mahomet. He left Uganda in May, 1900, enlisted at Nairobi, British East Africa, on Nov. 7th, 1900, and died of sleeping sickness Feb. 13th, 1902. Dr. Wiggins also relates the case of an Askari or native policeman named Sulivan Khair, stationed at Fort Ternan, British East Africa, for two and a half years before he developed the disease. He came from Entebbe and except for a visit to Jinja, Busoga, 14 months before he died, he had not left Fort Ternan. Neither of these men set up infection among their comrades.

These cases hint at a long incubation period when the trypanosoma is confined to the blood and also to the need of the tsetse fly to act as intermediary between the sick and healthy.

In an appendix clinical reports of several cases are given. We append a typical one together with the reproduction of a photograph of the patient.

CASE 21.—Kidorme (male). Age 20. District, Bussi. Occupation, Leadworker. Food, Fish, Sweet Potatoes, and Bananas.

March 24th, 1903. Admitted to hospital. Patient states that his illness began with cough and pain in his chest and that he has been ill about three months.

April 7th. He is weak on his legs, being only able to totter along. There is tremor of the fingers. His pupils are equal and normal. His speech is indistinct, weak, and monotonous.

April 22nd. *General condition.*—He is well nourished. His gait is weak and uncertain; he walks carefully with bent legs. He is intelligent and the expression of his face is fairly bright. There is no œdema anywhere. The mucous membranes are normal. No trophic changes.

FIG. 3.

A case of sleeping sickness.

Lymphatic glands are generally enlarged, about the size of beans in the inguinal region. He does not complain of any pain. *Nervous system.*—Intelligence and memory are good. He lies about all day but does not sleep much during the day. Speech rather weak and indistinct. Eyes normal. Tongue jerky. Tremor of lips and hands and generally of body. His sensibility to touch is normal, as also is his muscle sense. Knee-jerks are present. Ankle clonus absent. *Alimentary system.*—His appetite is good; tongue moist, furred; and gums are healthy. The liver and spleen are not enlarged. Bowels regular with use of medicine. *Circulatory system.*—Apex beat is imperceptible. Heart sounds weak. No bruit. Pulse 120; small, tension low, compressible, rhythm irregular. *Respiratory system.*—Nothing abnormal. *Cutaneous system.*—Nothing abnormal.

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THE LANCET.

LONDON: SATURDAY, DECEMBER 19, 1903.

The Registration of Births and Deaths.

WE have received from the honorary secretary of the Leicester Medical Union a copy of a document entitled "Suggestions for an Act of Parliament to Extend and Amend the Law Regulating the Registration of Births and Deaths," and we congratulate the members of the Union upon having turned their attention to one of the most pressing of the medico-political questions of the day. All enactments governing domestic administration must from time to time be adapted to the ever-growing complications of national life; and the registration of births and deaths has remained unaltered since the consolidation of the Acts relating to the subject by the 37th and 38th of Victoria. In the course of the period which has since elapsed much knowledge has been gained with regard to the statistical value of correct registration, as well as with regard to the misleading character of the inferences likely to be deduced from careless and inaccurate returns, and, at the same time, our knowledge of the facilities for crime afforded by the present law has been materially increased. According to documents issued by the Registrar-General the uncertified deaths which were not made the subjects of judicial inquiry have amounted during the last ten years to something ranging from 1½ to 2 per cent. of the entire mortality of the kingdom; and not the least striking feature of the case is that this proportion differs widely in different parts of the country. During the last quarter, for example, there were no uncertified deaths in Rutlandshire, and the proportion was less than 1 per cent. in London, Surrey, Middlesex, Wiltshire, Somersetshire, Gloucestershire, Cheshire, the East Riding of Yorkshire, and Monmouthshire; but it reached 3·0 per cent. in Kent, 3·2 in Cumberland, 3·3 in North Wales, 3·4 in Bedfordshire, 3·5 in Derbyshire, 4·4 in Herefordshire, and 6·1 in Westmorland. The contrasts presented by urban districts were not less remarkable, for while the mean proportion in 76 great towns was 1 per cent., and while there were no uncertified deaths in Croydon, Willesden, Hornsey, Tottenham, East and West Ham, Southampton, Great Yarmouth, Derby, Stockport, York, Newport (Mon.), or Merthyr Tydfil, the proportion per cent. rose to 3·1 in Smethwick, in Bootle, and in Barrow-in-Furness, to 3·2 in Gateshead, 3·5 in Rochdale, 3·7 in Warrington, 3·8 in Rotherham, 4·2 in South Shields, and 4·6 in St. Helens. Neither the county nor the city of Leicester receives special mention, a circumstance from which we may infer that the action of the members of the Medical Union has been guided by considerations of a general character rather than by any special experience gained in the localities in which they live.

Of the 1781 deaths which in the third quarter of 1903 were registered without certification the returns furnish us with no particulars. We are not told in what proportion they were those of young children or of aged people, the two classes in which death is most likely to be brought about, directly or indirectly, by cupidity or by neglect. It is probable that some causes have been assigned for this mortality, but no one can tell in what proportion such causes may have been those actually in operation. During the same quarter the causes of death were certified in 8296 cases by coroners after inquisition, and it is manifest that an increase of this number by something more than one-fourth, while entailing but small expense, would materially have increased the public safety. We do not need SHAKESPEARE to tell us the frequent dependence of ill deeds upon opportunity; and a locality in which it becomes known that registration can be easily effected, and that the absence of a certificate will be excused or disregarded, quite naturally becomes a happy hunting ground for the agents of those perverted forms of the insurance office or of the burial club which have been responsible for so many instances of unexplained decease. A minor but still an important consideration arises from the extent to which the want of certification introduces an element of inaccuracy into the returns of the causes of death and diminishes their usefulness as the basis of conclusions upon questions of public health. At St. Helens, for example, where there is a population of rather more than 85,000 and an average mortality of 475 deaths per quarter, there would be an average of 78 uncertified deaths in the year; and it is easy to conjecture the extent of error which might thus be introduced into any calculations concerning, say, the mortality attendant upon some particular local epidemic or cause of disease. The existing state of the law, therefore, strikes at the root of the accuracy of registration as well as at that of its completeness, and in regard of both it falls much below the scientific requirements of the present day. In addition to all this, it casts a wholly unjustifiable burden upon medical practitioners who are required to furnish certificates of the cause of death in all cases which they have attended and in which there is no suspicion of foul play, without any provision for their remuneration, either by the relatives of the deceased or by the State.

The evils and abuses thus referred to have long been flagrant and have more than once been made the subject of official representation to the Privy Council by the General Medical Council, but so far wholly without effect. It may be added that the office of Registrar-General, which has for its main object to chronicle the causes of death and to derive from them whatever lessons they are calculated to teach, instead of being regarded as one which is in its very nature medical, has hitherto been conferred upon non-medical gentlemen. The Leicester Union does not touch this aspect of the case but is content to suggest that no burial shall take place without a medical certificate, that every birth shall be certified to the registrar either by a medical practitioner or by a registered midwife, and that no stillborn child shall be buried without a medical certificate, provisions being introduced to meet the accidental absence of a person entitled to

certify. So far the "suggestions" ought to command universal assent; but there is also one which would require a practitioner who had been in attendance during an illness to see the body of his deceased patient before certifying, and within 24 hours of death, or to depute some other practitioner to do this on his behalf. We have heard objections to this proposal on the part of medical men who have alleged that the discharge of the duty might sometimes be troublesome or inconvenient, but we think, especially as the suggestions provide for payment, that any such trouble should be faced. It would hardly be consistent with professional dignity and rectitude to certify even the fact of death, when this is done as a public duty, merely on a basis of hearsay information, and there could be no overwhelming inconvenience in paying another visit where presumably several have been paid before. The medical profession, with everything to gain by the better enforcement of registration, should be the last to object to an enactment which would invest it with due and proper formality. As regards the important question of remuneration, the suggestions are only defective in so far as they neglect to say by whom it should be provided. They recommend a payment of 5*s.* for a medical certificate of the *cause* of death and a payment of 1*s.* for a certificate of the *fact* of birth, thus making a proper distinction between the value of professional and of what may be called common knowledge. The proposed service is for the good of the State and it is clearly by the State that the expense of providing it should be incurred. The proposed payments would yield something between £150,000 and £200,000 a year to the profession; and whenever there is any prospect of the question being submitted to Parliament the medical men in every constituency should impress upon their representatives the absolute dishonesty of the demand hitherto made upon their time and skill, and the strength of the arguments in favour of their being paid as public officials for the discharge of important public duties.

The Results of Operative Treatment of Perforating Gastric and Duodenal Ulcer.

FOR more than ten years it has been the routine treatment to deal with perforated ulcers of the stomach by laparotomy and sufficient time has now elapsed to enable us to form a clear idea of the operation and its results. It is true that the records of many cases have appeared in THE LANCET and other medical journals, both in this country and abroad, and these have been collected from time to time and analysed, but the statistics founded on the results of these published cases have but little value, for successful cases are far more likely to appear in a medical periodical or to form the basis of a paper read at a society than are those in which the issue has been unfortunate. There are several reasons for this. In the first place every surgeon feels a perfectly justifiable pride in the recovery of a case which he has submitted to operation and therefore he is more likely to put it on record; secondly, an unfavourable result may be, and often is, due to some peculiarity in the case itself or to the time at which it comes under treatment, and therefore it may in itself be less instructive; and in the third place, especially when an operation is new, the surgeon is liable to attribute a fatal result in some degree to a lack of acquaintance with the technique of the operation. As a result of these natural tendencies single cases, whether recorded in the journals or in the transactions of the societies, should be excluded from statistics which claim to be of real value, because it will be found that single cases are far more likely to be successful than unsuccessful. It is then on series of cases that we must rely if we wish to obtain a trustworthy statistical idea of the mortality following any operative procedure.

A complete list of the cases under any one surgeon will give a far better view of the risk of an operation, but of greater value still is a series of cases occurring in a hospital, for thus not only are we likely to obtain a greater number of cases but, inasmuch as it will include the practice of several surgeons, the personal factor will tend to be eliminated. In this issue of THE LANCET will be found a series of cases of operation for perforation of gastric and duodenal ulcers treated at St. George's Hospital. The cases number 50 and have been collected by Mr. T. CRISP ENGLISH who has also analysed the facts connected with them and thus has conferred a distinct service on surgery. Of course from this series have been excluded those cases in which moribund patients with perforated ulcers were admitted and in which no operation was performed. The first question which Mr. ENGLISH has attempted to solve by his series of cases is, What signs are there of impending perforation—and he has shown that in a certain proportion of the cases there were a progressive increase of pain and vomiting for a few hours or even for two or three days preceding perforation. This increase of severity of symptoms might prove of value in enabling surgical aid to be at hand should perforation result. In three cases perforation occurred in patients already in the hospital and curiously all three patients died; in one of the cases death was due to a duodenal ulcer opening up the gastro-duodenal artery. The signs of perforation are generally sufficiently clear; the sudden intense and abdominal pain is the most important of these while vomiting was present in over 75 per cent. of the cases. During the stage of reaction the patient may show few signs and in one case a man walked into the hospital merely complaining of "stomach-ache" although he had general peritonitis from a perforated duodenal ulcer. Mr. ENGLISH considers that not only morphine but also stimulants such as alcohol or strychnine may produce such temporary improvement as to mask the symptoms and to lead to the postponement of an urgent operation. We have on several occasions pointed out that the presence or absence of liver dulness is of no value in the diagnosis of perforation and Mr. ENGLISH'S statistics support this view, for in 11 out of 43 cases the liver dulness was normal in spite of perforation having occurred.

The percentage of recoveries after laparotomy for perforation of gastric and duodenal ulcers is certainly encouraging. In the case of gastric ulcers the percentage of recoveries was 52 and in the case of duodenal ulcers it was 25. The

proportion of recoveries is increasing, for of the first ten cases only three patients recovered, while of the seven patients admitted during 1903 six have recovered. We hope that when the number of cases at St. George's Hospital reaches 100 we may have the statistics brought up to date, for the larger the number of cases in a series the more trustworthy are the conclusions to be drawn therefrom.

Herbert Spencer.

THE hand of death has removed from the ranks of the living another of the triumvirate who conceived the theory of evolution, laid the foundations, and completed the mighty edifice. We do not attempt to appraise the size or the value of the part which each artificer contributed to the completion of the whole. It must be remembered, however, that HERBERT SPENCER'S achievement was unique in the annals of literature; with a limited scientific equipment, with no classical training, and with, at first, no conspicuous literary gifts he imposed upon himself, the task of systematising all knowledge and of symbolising in concrete ideas the processes whereby organic and inorganic nature had arrived at the stages of development at which he found them. He assumed at the commencement of his task that there were certain immutable laws which were responsible for all conditions of change, and as a sequence he laid it down that in all the phenomena of the material world there was a gradual passage of matter "from an incoherent homogeneity to a definite coherent heterogeneity, during which the retained motion undergoes a parallel transformation." Applying and extending this general formula to the interpretation of particular phenomena he sketched in his "First Principles" the outline of a philosophy which covered the entire ground of biology, psychology, sociology, and ethics. At the time that he moulded the skeleton of the system which he ultimately clothed with adequate tissues his knowledge of biology, psychology, sociology, and ethics was admittedly small. He was, as he described himself, "merely a synthetic philosopher," a systematiser of the work of others. His knowledge of the completed anatomy of his skeleton, with its nerves, its muscles, and its integuments, was still to be acquired, and was acquired as he proceeded with his task and then published for the benefit of the world in the volumes which unfolded the details of his many-faceted philosophy. The real greatness of the man is not least revealed in the fact that never, or practically never, was he compelled by force of evidence to abandon any of the original propositions which he laid down in his "First Principles," or, with maturer experience and knowledge of the subject, to modify any of the important views which he therein enunciated. Guided entirely by first principles and laws which were universally applicable he seldom fell into gross error, and by reason of the exactness of his methods few could criticise or find fault with his less important observations. The principles which HERBERT SPENCER enunciated are to-day accepted all the world over as the basis of an exact philosophical reasoning and his conceptions have influenced the directions of progress of almost every science. Biology has by no means been the least to profit by his work. Medicine has as yet reaped benefits which were hardly comparable with those which he has conferred on kindred branches of science; indeed, the full significance of his definitions of life and death and disease are by no means to-day as fully valued by those who attempt to unravel the problems of pathology as they undoubtedly deserve to be. The conception of disease as a "disturbance of organic equilibrium," a perverted manifestation of energy, and an uneconomical redistributing force, is one which has only found expression in some few of our medical writers who have come under the influence of his genius. But pathological manifestations, like all other natural phenomena, are subject to immutable laws, and as medicine becomes more and more an exact science we may expect to see among its practitioners a wider appreciation of HERBERT SPENCER'S synthetic work.

HERBERT SPENCER was himself little interested in the problems of pathology, but such generalisations as he occasionally ventured to form had an illuminating influence on the conception of morbid processes. It has been a loss to medical progress that his philosophy extended so little in this direction. Up to the end of his illustrious career he fought with all the energy and the sincerity of which his profound mind was capable for the principle that acquired characteristics were, and must be, inherited. The truth or falseness of this postulate was, he contended, of the utmost importance to the progress of mankind, for according to the manner in which men regard this question so are determined their actions in politics, ethics, education, and sociology. In the appendix of the last edition of his "Principles of Biology," which was written only a few years before his death, and which therefore may be accepted as representing his final word on this subject, he expresses the depth of his feeling in the following words: "And now I must once more point out that a grave responsibility rests on biologists in respect of the general question (inheritance), since wrong answers lead, among other effects, to wrong beliefs about social affairs and to disastrous social actions. In me this conviction is increasingly strengthened. Though the 'Origin of Species' proved to me that the transmission of acquired characters cannot be the sole factor in organic evolution, yet I have never wavered in the belief that it is *a* factor and an all-important factor. And I have felt more and more that since all the higher sciences are dependent on the science of life and must have their conclusions vitiated if a fundamental datum given to them by the teachers of this science is erroneous, it behoves these teachers not to let an erroneous datum pass current; they are called on to settle this vexed question one way or other." The truth or the reverse of his views on the inheritable qualities of acquired characteristics is of universal importance, but more especially so in medical science; and although his proposition is by no means opposed to the accumulated evidence of clinical experience, nevertheless deductions from morphology, laboratory experiments, and microscopic investigation at least lay it open to serious doubts. As we have already said, HERBERT SPENCER'S views have seldom proved wrong. His purview of organic evolution was so far-reaching in extent that we must hesitate many times before we reject on grounds of detail

a proposition in which he firmly believed and which was material to the stability of his great argument.

"Every change," wrote HERBERT SPENCER in his "Principles of Biology," "is towards equilibrium, and that change can never cease until equilibrium is reached." And again he postulated: "Evolution is an integration of matter and concomitant dissipation of motion." In his own powers of mental cerebration he provided one of those great climaxes of intellectual evolution which at times anticipate, perhaps by generations, the progress of knowledge. The integrated forces from which proceeded this intellectual outflow have now found their equilibrium and that life which was devoted to the fathoming of the knowable has passed to the regions of the unknowable. The influence of his intellect will persist, permeating men's minds and substantiating his conceptions in psychology.

The University of London and Medical Education.

WE publish in another column a thoroughly well-justified appeal made by the University of London for funds to support an adequate system of medical education in the metropolis. The appeal takes the form of a letter signed by the Earl of ROSEBERY, the Chancellor of the University; Dr. P. H. PYE SMITH, the Vice-Chancellor; Sir ARTHUR RÜCKER, the Principal; Mr. H. T. BUTLIN, the Dean; and Dr. J. KINGSTON FOWLER, a member of the Senate; and in this document all the arguments for the foundation of a central institute for the preliminary scientific education of the medical student are succinctly set forth. A Royal Commission has recommended that the teaching of such subjects as physics, chemistry, biology, anatomy, physiology, and pharmacology should be concentrated into one or two central institutions. The recommendation was adopted by the Statutory Commission responsible for the statutes of the reconstituted University and has since been endorsed by the faculty of medicine, which has urged upon the Senate the advisability of carrying out a project so importantly brought to its notice. Lord ROSEBERY and his co-signatories have, therefore, behind them an enormous weight of deliberate and authoritative opinion when they appeal to the public for funds to establish in connexion with the University of London a central school for the teaching of subjects ancillary to the acquisition of medical science or preliminary to the practice of medical doctrines. We trust that the appeal will be generously responded to.

The affairs of the University of London have lately been much in evidence. The address recently delivered by Sir ARTHUR RÜCKER on the work and aims of the University of London marked a distinct forward step in the organisation of education in the metropolis. It is not a matter for surprise that some considerable time should have elapsed before the Senate of the reconstituted University was able to announce to what small portions of its mighty task united effort would first be directed. The irresponsible critic has frequently in the last three years grumbled at the apparent absence of immediate results from the work of the Statutory Commission, and even in the three important schemes which the Principal of the University commends to the attention of a generous public, it is not impossible to find features which fail to command universal approval. Fortunately, while recognising the impossibility of pleasing all parties the authorities move forward, doubtless carefully considering the criticisms, and taking every precaution to avoid the pitfalls pointed out to them. Mr. T. BAILEY SAUNDERS, whose work as secretary of the Statutory Commission gives his opinion on university matters weight, has lately indicated the difficulties that will have to be overcome, if the scheme, which is usually called Lord ROSEBERY'S Charlottenburg scheme, is to achieve the good results hoped for by its promoters. Sir ARTHUR RÜCKER'S reply to these criticisms makes it clear that most of Mr. SAUNDERS'S objections have already been noted by the authorities. It remains to be seen with what success the powerful and representative committee now considering the details of Lord ROSEBERY'S proposal will be able to devise a scheme which, while filling vacant educational spaces, will not unduly interfere with existing institutions. Difficult as is the problem it certainly should not prove insoluble. Almost immediately after it had been officially announced that an additional amount of £100,000 would enable the incorporation of University College with the University of London to be carried into effect the satisfactory news came to hand that the College had received an anonymous donation of one-half the needed sum. We offer our hearty congratulations to the authorities of University College upon this latest indication of the public appreciation of the good work which they have done in the past under difficult conditions.

The last of the three aims of the University which the Principal linked together as requiring and deserving the immediate support of the public purse is that in which the medical profession is most interested—namely, the proposal to build and to endow an institute of medical sciences in the near neighbourhood of the University. The Principal stated that this scheme was well in hand and that the proposal was receiving the warm support of the Senate, and now the letter, which we publish to-day in our columns, shows that it is intended to make an immediate attempt towards its realisation. We understand that promises of pecuniary help towards this object are somewhat difficult to obtain. London has not been accustomed to find money to promote medical education, and it will require much eloquence on the part of those who recognise the value of concentration to persuade the wealthy public to subscribe the considerable sum required to build and to endow the institute. Nevertheless, we are confident that the example that has been set in provincial universities and colleges will shortly be followed by wealthy citizens of London. Sir TREVOR LAWRENCE, in defending the original determination of the governors of St. Bartholomew's Hospital to rebuild their charity on what is now allowed to be an inadequate site, alluded to the subject in a suggestive way. He pointed out that the taking over by the University of the teaching of certain subjects of medical education now taught at the hospitals will provide, in hospitals having medical schools attached, an automatic extension of their sites. This is no doubt true and is not the least of the

many advantages of concentration. We, however, think that the space freed in hospitals by the relegation of some of the earlier courses of the students to a central institute would almost immediately be made use of for those improvements in the teaching of pathology, bacteriology, and other clinical subjects which the progress of medical education will inevitably demand. However this may be, it is of interest to note that the lay authorities of the hospitals in London are beginning to recognise that, by the help of the University of London in relieving them of some of the burden of medical education, the difficult problem may possibly be solved of providing for the ever-increasing demands of scientific medicine upon the defined but costly sites which most of the hospitals occupy.

Annotations.

"Ne quid nimis."

THE CASE OF DR. LACHLAN GRANT.

IN THE LANCET of Dec. 5th we drew attention to the then existing position of the dispute between the quarriers of Ballachulish and the directors of the quarry company. We said that if the men held out the shareholders would insist upon the matter being settled in the men's way. We now learn that on Dec. 9th two members of the quarriers' committee, together with Dr. Grant, went to Edinburgh at the request of their legal advisers. On arrival they were told that the company's secretary had approached the quarriers' lawyers with a view to a settlement. Eventually it was agreed between the directors on the one hand and the quarriers' representatives and Dr. Grant on the other that Dr. Grant's appeal to the House of Lords should be withdrawn, that the quarriers' appeal to the Inner Division of the Court of Session should be withdrawn, and that the company would suspend its interdict against Dr. Grant practising in Ballachulish. Dr. Grant and the directors have signed an agreement, the quarriers consider that the labour terms already agreed to are satisfactory, and now all that remains is that the quarriers themselves should agree to the terms accepted by their representatives. This we should think there is no doubt of their doing. So the dispute may be said to be at an end and Dr. Grant and the quarriers have won all along the line. From a strict legal point of view the directors had a right to terminate their agreement with Dr. Grant. But it was foolish of them to do so, and they found that they were unable to get another medical man to take over Dr. Grant's work permanently. The quarriers have acted towards Dr. Grant magnificently all through the trying times which have now passed. Their club is, indeed, one worth working for and Dr. Grant may well be proud of having gained the confidence and esteem of such a worthy body of men.

THE METROPOLITAN HOSPITAL SUNDAY FUND AND THE KING'S HOSPITAL FUND FOR LONDON.

WE publish this week an abstract of the report of the King's Hospital Fund for London for the past year which sufficiently shows the magnificent work that has been accomplished. A sum of £100,000 will be distributed among the hospitals, the awards having been made as usual with generosity as well as with scrupulous discretion. We publish also a report of the annual general meeting of the supporters of the Metropolitan Hospital Sunday Fund, which Fund has been instrumental in collecting and distributing a sum of £64,975. Magnificent as these sums are the wants of the hospitals are so urgent that they are absorbed without making any apparent difference to the prevalent financial depression of our noblest London charities. Ask, however, the treasurers of the different institutions what the receipt of an annual donation from these funds means and it will be found that the grants are welcomed with the greatest gratitude. They are doubly valuable as, first, the receipt of them is a testimonial to good management, and secondly, the augmentation of funds comes with approximate regularity and in some proportion to the urgency of the needs. If the public knew what a relief the certainty of being able to meet particular claims with particular receipts brings to those who are responsible for the pecuniary management of the London hospitals, surely they would help these two splendid funds to do a still greater work.

BUTTER STANDARDS.

IN the words of the fourth section of the Sale of Food and Drugs Act, 1898, "the Board of Agriculture may after such inquiry as they deem necessary make regulations for determining what deficiency in any of the normal constituents of genuine milk, cream, butter, or cheese, or what addition of extraneous matter or proportion of water in any sample of milk, cream, butter, or cheese, shall for the purposes of the Sale of Food and Drugs Act raise a presumption, until the contrary is proved, that the milk, cream, butter, or cheese is not genuine or is injurious to health and an analyst shall have regard to such regulations in certifying the result of an analysis under those Acts." For a long time there has been considerable difficulty amongst analysts in drawing a uniform inference from the results of their analyses in regard to butter. The difficulty has been increased by the fact that butter fat varies in composition in accordance with the different conditions (such as climate and feeding) under which it is produced in different places. The difficulty became acute when it was shown that certain imported butters gave abnormal results, though there was no doubt about their genuine character. Analysts have commonly based their inference as to the genuineness or not of a butter upon the amount of soluble or volatile acids that it contains and a fairly constant number was used as a semi-official limit. It was soon found, however, that though this limit could be fairly applied to home-produced butters it could not be so applied to certain butters imported from abroad. In other words, certain butters showed a deficiency in volatile acids although the samples were undoubtedly genuine. The subject therefore was one requiring serious attention and a departmental committee was appointed by the Board of Agriculture to deal with it, and the recommendations just published in its final report appear to us to be, on the whole, well founded. The committee was appointed in July, 1901, and in an interim report issued in January, 1902, it unanimously recommended the adoption of a limit of 16 per cent. for the proportion of water in butter. We believe that this limit has worked well in practice and has not imposed any hardship upon the trade, but, as we have pointed out before, it is a pity that the operation of this limit can be avoided provided that a sufficient disclosure of the fact be made to the purchaser. This system of disclosure seems to us to reduce the Sale of Food and Drugs Acts in many cases (notably in spirits and the milk sold in restaurants) to a dead letter. However, in its final report the committee deals with the question of what regulations, if any, should be framed for the purpose of directing an analyst appointed under the Sale of Food and Drugs Acts when to raise a presumption that a sample of

butter has been mixed with foreign fat. Without going into such details of the report, as, for example, the chemical nature of butter, the composition of butter fat and of butter substitutes, and analytical methods, it may be stated that the committee has decided to recommend a limit based on a deficiency in the normal constituents of butter. The opinion of the committee is that if the amount of the volatile acids in any sample of butter as determined by the Reichert-Wollny method should fall below the number 24 a presumption should be raised that the butter is not genuine. In arriving at this decision the committee had before it the evidence of analytical experts and the tabulated results of some thousands of determinations more particularly of the volatile acids contained in butters of very variable origin. As a result it was shown that more than nine-tenths of the samples have a Reichert-Wollny number comprised between the limits of 24 and 32, and that by far the greater amount of these are comprised between the limits of 26 and 31. Many of the exceptional instances were the produce of single cows or of very small herds. The opinion is expressed that as the butter which comes within the purview of the Sale of Food and Drugs Acts is the product of large herds or the mixed products of different dairies, abnormalities due to idiosyncrasy or to exceptional causes tend to disappear. The committee assumes that the proposed limit will not act prejudicially upon any appreciable quantity of butter made in the United Kingdom or upon colonial, American, Argentine, Danish, Swedish, French, or Italian butter, but it may occasionally affect to a small extent, and then only for a short time during the year, the butter from Norway, Siberia, and Holland. An important step is suggested in regard to margarine, and that is that the use of 10 per cent. of sesame oil in the manufacture of margarine should be made compulsory. As it is remarked, fraud might be considerably checked if margarine were required to contain, as is the case in Germany, Austria, and Belgium, and as is contemplated in France, some "tell-tale" or indicative substance sufficiently sensitive to allow even small quantities of the margarine to be detected. The report is signed by ten of the members of the committee, three of whom, however, make certain reservations. Mr. C. J. Dunn and Mr. J. Gilchrist refer to the limit of 24 and suggest that the figure 23 would be safer, while Mr. P. G. Craigie is of opinion that it is premature yet to fix a limit in view of the cases of variations brought to the notice of the committee. Finally, Mr. Patrick Hickey found himself unable to sign the report because his views were at variance with the conclusions of the majority. He has, therefore, added a separate report in which he gives his conclusions for thinking that the evidence presented to the committee does not afford solid grounds for the fixing of any limit based upon the proportions of volatile acids.

THE VIVISECTION QUESTION IN THE PAST.

QUESTIONINGS as to the justifiability of vivisection and expositions of the results obtained by means of experiments upon live animals are by no means new. So long ago as 1709 Christian Sigismund Wolff published at Leipsic a disputation as to the morality of anatomy when occupied with living animals ("De moralitate anatomes circa animalia viva occupatæ") and in 1722 Apinus contributed to the literature of the law of nature a dissertation on the same theme. The book was published at Altorf and its quaint title runs, "An licet brutorum corpora mutilare et speciatim ob es recht sey, dass man den Hunden die Ohren abschneide, variis observationibus aucta et a nonnullorum objectionibus vindicata." After the time of Apinus library catalogues omit any mention of this vivisection literature until in 1824 appears a judicious dissertation by Gerdy of the University of Paris in which the claims of vivisection are weighed *pro* and *con*. Gerdy's book is followed a year later by a Copenhagen prize essay from the pen of Dr. P. W. Lund. The book is a detailed exposition of the benefits and discoveries due to vivisection. It deals with discoveries concerning reproduction, digestion, and the functions of the intestines generally, all of which have been arrived at by means of the experiments of such men as Blundell, Haighton, Magendie, and Wilson Philip, to mention English-speaking physiologists alone. Such a book as Dr. Lund's, carefully compiled and issued by authority, is, despite its antiquity, a sufficient answer to the silly modern query: "What has vivisection discovered?" The older writers were never really doubtful of the use of vivisection both to science and to humanity. Mr. Pepys, for instance, after recording "a pretty experiment of the blood of one dog let out into the body of another," writes optimistically of the possibilities of the experimental method in the future. "Mr. Hooke ..... tells me," says he, "the dog (into the body of which blood had been transfused) is very well and doubts not its being found of great use to men, and so do Dr. Whistler, who dined with us at the tavern."

ST. BARTHOLOMEW'S HOSPITAL.

WE have received the following communication from the governors of St. Bartholomew's Hospital:—

The house committee and committee of treasurer and almoners of this hospital have decided unanimously to recommend the governors to take steps to ascertain the possibility of acquiring a further addition to their site. They have adopted this course in view of the great and general encouragement thereto given to them in the principal organs of the press and in other quarters. They believe that they have the unanimous support of their medical staff in the action they have decided to take in regard to this matter.

We have also received this letter from the medical council of the hospital:—

To the Editors of THE LANCET.

St. Bartholomew's Hospital, Dec. 10th, 1903.

SIRS,—We, the members of the medical and surgical staff of St. Bartholomew's Hospital, wish it to be known that we support most cordially the appeal of the governing body for funds.

We beg to state that, in our opinion, the first essential is the acquisition of more land, the next the erection of new buildings, and the ultimate reconstruction of the whole hospital on the extended area.

In pursuance of this scheme we are in hearty agreement with the governors in their proposal to acquire more land and to erect first and without further delay the new out-patient block, on account of the urgent need of the departments which will be included in this building.

The acquisition of more land by the governors will necessitate the reconsideration of all previous plans for wards and other new buildings and will enable St. Bartholomew's to become one of the most complete hospitals of modern times.

Upon the response to this appeal will necessarily depend the future of the hospital.

We are, yours faithfully,

(Signed)	SAMUEL GEE.	JOHN LANGTON.
	DYCE DUCKWORTH.	HARRISON CRIPPS.
	T. LAUDER BRUNTON.	W. BRUCE CLARKE.
	NORMAN MOORE.	ANTHONY BOWLBY.
	SAMUEL WEST.	C. B. LOCKWOOD.
	J. A. ORMEROD.	D'ARCY POWER.
	W. P. HERRINGHAM.	H. J. WARING.
	H. H. TOOTH.	W. MCADAM ECCLES.
	A. E. GARROD.	R. C. BAILEY.
	JAMES CALVERT.	W. H. H. JESSOP.
	F. H. CHAMPNEYS.	T. HOLMES SPICER.
	W. S. A. GRIFFITH.	A. E. CUMBERBATCH.

We heartily congratulate the governors of St. Bartholomew's Hospital upon the decision to which they have come and all the more so because we applied the major portion of the stimulus which has brought about so prompt a response. We may remind the governors of the hospital that on July 2nd, 1900, Sir Sydney Waterlow remarked at a special court of governors: "Personally I do not think that the purchase of the whole site (of Christ's Hospital) would be a very speculative undertaking."[1] Only late, however, have the governors made up their minds and already we hear of formidable rivals who are anxious to obtain the remainder of the site of Christ's Hospital. The most dangerous rival in the field is the Post Office, an organisation which without

[1] THE LANCET, July 7th, 1900, p. 43.

doubt is cramped for room. But the claims of St. Bartholomew's Hospital are paramount and we can but hope that an institution with such a noble history, the Patron of which is the King, the President of which is the Prince of Wales, and which is the one hospital within the City of London, will not be allowed to be outbidden in its desire for more land by any other organisation. Some five weeks hence the citizens of London will have all the details laid before them at the Mansion House meeting. If the governors make a bold and large appeal we repeat our opinion that such an appeal will not fall on deaf ears.

SIR WALTER BESANT AS A LONDON CITIZEN.

AN interesting little ceremony was performed on Dec. 11th, when a memorial was placed in the crypt of St. Paul's Cathedral to Sir Walter Besant. Sir Walter Besant's literary work and position do not call for detailed comment in THE LANCET, but his deep interest in London had its distinct medical side. Lord Monkswell, the chairman of the London County Council, to whom the unveiling of the monument was entrusted, pointed out that the especial fitness of a memorial to Besant in St. Paul's Cathedral lay in the fact that his unrivalled knowledge of London went hand in hand with a deep and genuine sympathy for the poor of the great city. Such men as Besant, said Lord Monkswell truly, give enormous aid to municipal bodies in their attempts to brighten and to sweeten the lives of the needier classes under their jurisdiction. In all Besant's work dealing with the metropolis there is evident knowledge that the foul environment produces the defaulting citizen. What is this but to preach the doctrines of sanitation?

PARACENTESIS THORACIS IN TRAUMATIC PNEUMOTHORAX.

BY far the most frequent cause of pneumothorax is the bursting of a tuberculous vomica of the lung into the pleural cavity, but pneumothorax may be the result of injury and then the air may be admitted into the cavity of the pleura in one of three ways. In the first mode by a bullet or a cutting weapon an aperture is made through the chest wall and the parietal layer of the pleura and the external air enters directly; this is, perhaps, the most common variety. In the second form there is no external wound but the force applied breaks a rib and the sharp end of this tears both the parietal and the visceral layers of the pleura and the air from the torn lung escapes into the pleural cavity. The rarest of all the forms of traumatic pneumothorax results from a rupture of the lung substance without any wound of the parietes of the thorax or fracture of a rib. This occurs especially in children, in whom the pliancy of the ribs permits their bending so that the full force of the pressure comes on the lung. If, at the same time the glottis closes from the sudden shock, the lung is liable to be ruptured and pneumothorax to be produced. The form of violence that usually gives rise to this lesion is the passage of the wheel of a cart over the chest. In recent issues of THE LANCET we have recorded two instances in which a traumatic pneumothorax was produced and in each of them the injurious effect of the pressure exerted by the air in the pleural cavity was relieved by the withdrawal of some of the air. In one case, which was under the care of Mr. R. J. Godlee in University College Hospital, the air was removed by means of a trocar and cannula, a tube being attached to the end of the cannula and dipping into a bottle containing sterilised salt solution. The other case was in King's College Hospital, under the care of Mr. F. F. Burghard, and in this instance an aspirator was employed. In both cases much benefit resulted from the operation and the question arises should paracentesis be performed in any cases of pneumothorax? and the further question follows, should simple tapping be preferred or should aspiration be done? The value of paracentesis in the analogous condition of pleurisy with effusion has long been recognised, and therefore it is natural that the operation should have been performed in pneumothorax. From time to time there have been discussions as to the advisability of attempting to remove the air from the pleural cavity and many of the text-books deprecate any interference on the ground that there is a possible danger of renewing the fistulous opening. This objection, however, applies chiefly to pneumothorax which has resulted from the rupture of a tuberculous cavity; for in the traumatic variety it would not apply. If it be determined, then, to perform paracentesis thoracis, which method, tapping or aspiration, is to be preferred? The answer to the question will depend on the intrapleural pressure. Mere tapping will suffice to relieve the pressure should it be above that of the atmosphere. Although it has been denied that the intrapleural pressure can ever exceed that of the atmosphere, yet it is clear, from the observations of Dr. Samuel West, for instance, that in many cases of pneumothorax the pressure, especially during expiration, may exceed the pressure of the atmosphere by several inches of water. If, however, there be no excess of intrapleural pressure it is obvious that no air will escape through a simple cannula and in such cases, other conditions permitting, the aspirator may be usefully employed. The relief to the dyspnœa has been very great in many recorded cases and in some the operation has appeared to rescue the patient from imminent death.

ANTIDIPSO.

THERE have been many cruel and wicked frauds committed by the sellers of quack medicines but of all that have come to our notice we do not know one of a baser character than that which is perpetrated by the proprietor of antidipso. This remedy is "run" by a person named A. L. Pointing who is referred to in our contemporary *Truth* in its issue of Dec. 10th. Mr. Pointing, who resides at Century House, Regent-street, appears to be responsible for the Century Thermal Bath Cabinet, Limited, the Grecian School of Physical Culture, the Espanola Medicine Company for increasing the size of the female bust, and the Ward Chemical Company which is responsible for antidipso. Antidipso is said to be a drug which in cases of drunkenness "can be given in tea, coffee, or food, thus absolutely and secretly curing the patient in a short time without his knowledge." So we learn from an advertisement which occupies a whole page in the December number of the *Strand Magazine* in company with such advertisements as Dr. Rice's Rupture Cure, the Espanola Medicine Company, and that of the well-known quack Dr. James W. Kidd. About ten days ago we sent a representative to Century House who purchased antidipso powders for which he paid 10*s*. He was also given two samples of the same and we will do the Ward Chemical Company the justice to say that the powders in the box and the sample were similar in composition. Ten powders weighed 2·733 grammes, being an average of 4¼ grains for each powder. Their composition was as follows: bromide of potassium, 21·78 per cent.; milk sugar, 78·22 per cent. There is therefore in every powder an average of rather less than one grain of bromide of potassium. The printed matter accompanying the powders stated that up to six powders may be given per day and that antidipso is both alterative and curative. It may be alterative, whatever that means, but to say that it is curative is a lie. The 10*s*. box contained 48 powders which at a moderate estimate would cost the vendors ½*d*. for bromide of potassium and nearly 1*d*. for the milk sugar. We do not, however, so

much object to the price—if people are so silly as to buy quack remedies they must expect to pay for them—but the heartless swindle is scandalous. To raise false hopes in those whose lot it is to be tied to a drunkard is disgraceful and no punishment can be too bad for the person who profits by such deceit. There is not the excuse that even if the drug is useless *per se* it may act by suggestion, for great stress is laid on the fact that it can be administered to a patient without his knowledge. Six grains or less of bromide of potassium per diem would have no effect whatever in restraining the craving for alcohol or in relieving the physical evils arising from the ingestion of alcohol. The proprietors of our lay contemporaries in these circumstances might surely consider the advisability of refusing to insert the advertisements.

VACCINATION FEES IN RURAL DISTRICTS.

WE publish in another column a communication from a correspondent dealing with the very pressing question of the charges for vaccination in rural districts and without at this stage entering into all the controversial matters which centre around the subject we may say that in our opinion the communication referred to sets forth the case from the point of view of the public vaccinator clearly, forcibly, and reasonably. All who are familiar with the difficulties in carrying out the provisions of the present Vaccination Act and Regulations in rural districts will, we think, recognise that the illustrations furnished by our correspondent are fair average examples of what actually occurs in practice. The present outcry against the cost of vaccination is no doubt largely the result of what some would call a fortuitous concourse of circumstances. On the one hand, it is due to the neglect of vaccination and revaccination in the past and, on the other, to the actual or threatened presence of small-pox. We are dealing therefore, not only with a charge in respect to arrears but also with a charge relative to insurance in which all the premiums are being paid at one time in consequence of the fear of disease or death. Similarly those who have any knowledge of the routine work of the public vaccinator in rural districts will agree with our correspondent in recognising that under the present system there is an enormous amount of unremunerative work performed, and if the guardians call in question this fact let them inspect some of the H Forms which their public vaccinators have, in accordance with instructions, returned to the vaccination officers. The guardians will find that in some instances not 50 per cent. of the cases on the list have been vaccinated by the public vaccinator and that in the column for "remarks" there abound entries such as "refused," "will be done by own medical man," "left," "postponed," "cannot find," and the like. An examination of these H Forms will satisfy the guardians or the departmental committee which is at present sitting that our correspondent is not exaggerating when he states that in a certain instance "the public vaccinator had travelled 1172 miles to vaccinate 745 cases for a remuneration of £45, being a fraction over 9*d*. a mile," and hence it is that in some cases the remuneration works out at 2*s*. or 1*s*. 10½*d*. per visit. The clerical work under the present Act is certainly very considerable, more especially if the instructions are rigidly adhered to, and the guardians, as well as the medical inspectors of the Local Government Board, are becoming very strict in regard to these matters. We think that all reasonably minded persons will agree with our correspondent that any reduction of fees for primary vaccination in rural districts would be eminently unfair. With regard to revaccination it cannot be contended that the fees are too high, but possibly a little saving might be effected where several persons are revaccinated in the same house. Here the maximum fee might be allowed for the first case only. Similarly, the guardians might, during the actual or threatened presence of small-pox, more frequently provide stations for revaccination. The Local Government Board would not, we imagine, in these circumstances withhold its consent. That these stations have not been provided in the past in greater degree is due largely to the indifference of the guardians themselves who take no interest whatever in performing the administrative duties in this respect which have devolved upon them but who content themselves with protesting when a somewhat startling table of fees is presented to them. Of course, stations of this nature are less used in rural than in urban districts owing to the long distances which have to be travelled, but in towns during an outbreak of small-pox stations opened in the evening hours would effect a very material saving in the total charge for revaccination and it appears to us that if any retrenchment is considered desirable it is in this direction that it might be effected. But, as we have already said, the magnitude of the whole question has become distorted by the vast accumulation of arrears and the presence of small-pox.

THE INVESTIGATION OF MALIGNANT DISEASE.

A JOINT paper by Professor J. B. Farmer, Mr. J. E. S. Moore, and Mr. C. Walker was read at a meeting of the Royal Society on Dec. 10th. The paper contained the substance of some extensive investigations which have been undertaken by them into the structure of carcinomata and sarcomata. They found that the cells at the growing edge of a malignant growth exhibited peculiarities in their nuclear changes on division. When an ordinary healthy cell divides the nucleus undergoes the changes which are so well known, and the chromosomes which are formed are constant in number in each group of organisms. In the division, however, of reproductive cells the chromosomes are few in number, and this smaller number is never exceeded so long as the cell remains a reproductive cell. The authors of the paper have observed that the growing cells of malignant tumours exhibit on division the phenomena of reproductive cells, possessing only the smaller number of chromosomes. From this fact they deduce that the cause of multiplication must be physiological stimulus and cannot be parasitic in origin. The observations are of great interest.

IRISH FOLK-LORE.

Professor J. W. Byers recently delivered before the Belfast Natural History and Philosophical Society a lecture on the Stories, Proverbs, and Sayings of Ulster. Apart from their intrinsic interest, such *résumés* of popular humour render service to students of folk-lore, for with the spread of education many of the old-world beliefs in elves, and forms of "good people," and many charming local superstitions will naturally die out. The greater part of Professor Byers's lecture was occupied with what may be called the supernatural side of his subject, but he also dealt with many curious words and phrases used by Ulstermen. "The Real M'Kay," "Morgan Rattler," and "Tibb's Eve" came in for explanation, and we think that most English audiences would here require an interpreter. No one knows the derivation of the phrase "Tibb's Eve"; it implies the day that never comes and is a sort of Irish synonym for "the Greek Kalends." "The Real M'Kay" is used as an expression of commendation which may be compared to the street boy's phrase, "a bit of all-right." The phrase had its origin in the Spanish title of "Réal" or Royal granted to a scion of a famous Irish house. The name of Morgan Rattler, a well-known smuggler, is used as a type of cleverness not necessarily coupled with honesty. Of many examples of Ulster humour we quote the following. "Coming into hospital

one day," says Professor Byers, "I overheard a patient say to another, 'Is your chicken soup thin?' The reply came at once, 'Ay, the bird only walked through it,' to which the first answered, 'Maybe it was on stilts.'" The people, especially the bucolic people of Ulster, do not differ from the inhabitants of other parts of the world in their belief in charms as a preventive of, or cure for, disease. We are told that in some places in the north of Ireland the moment a medical attendant pronounces the disease to be erysipelas a "charmer" is brought to the child. A patient suffering from mumps has to put on a donkey's bridle with the bit in his mouth and being led blindfolded to a stream or well is made to drink water three times in the name of the Trinity, the charmer meantime repeating an incantation. The ritual seems to be complicated but the value of suggestion is doubtless enhanced by making the patient submit to a good deal of trouble. Dread of the power of the evil eye still exists in Ulster as does also faith in omens. Professor Byers is to be congratulated upon having put on record some of the poetic superstitions of a charming people. That jettatura still has force in northern Ireland, as in Italy or the Levant, will be something of a revelation, we fancy, to most of our readers.

BURROUGHS, WELLCOME, AND CO. v. THOMPSON AND CAPPER.

Mr. Justice Byrne delivered judgment on Dec. 14th in an action of some interest to medical men brought by Mr. H. S. Wellcome, trading as Burroughs, Wellcome, and Co., against the firm of Thompson and Capper, druggists. The object of the action was to restrain the defendants from passing off goods as of the manufacture of Burroughs, Wellcome, and Co. which had not been manufactured by them and particularly from selling, or offering for sale, any such goods under the name "tabloid" or "tabloids" and from infringing these the registered trade-marks of the plaintiffs. Evidence was given in the course of the trial of the selling of goods not of the manufacture of Burroughs, Wellcome, and Co. to persons asking for tabloids and bearing prescriptions in which further specification of the manufacture demanded was afforded by the use of the initials B. W. & Co. by the prescriber. As to this being wholly unjustifiable no question could arise but the real claim of the plaintiffs was for the declaration of their exclusive right to the use of the words "tabloid" and "tabloids," without any addition, as indicating goods of their manufacture. The establishment of such a right by them was denied by the defendants, and behind this lay the question whether the words "tabloid" and "tabloids," registered by the plaintiffs as their trade-marks, were to remain upon the Trade-marks Register or were to be struck off in accordance with the defendants' cross-action to that effect. The judgment of Mr. Justice Byrne was in favour of the plaintiffs upon all points. He granted them an injunction against the defendants independently of the question of registered trade-mark. With regard to the trade-marks he refused to order their removal from the register and he granted the plaintiff firm a certificate to that effect. The case has some important professional bearings. One of the main grounds of attack on the trade-mark "tabloid" was the allegation that a proportion of the public did not know that the word was the property of a firm. It was shown in evidence by the defendants that Burroughs, Wellcome, and Co. advertised only to the medical profession and pharmaceutical trade, no facilities therefore being given to the public for gaining knowledge of the trade name in its proprietary connexion. It was also shown that some dispensers when supplying "tabloids" have removed the makers' label and affixed their own—a still more obvious reason for the ignorance of the public as to the property of Burroughs, Wellcome, and Co. in the word "tabloid." There are a few circumstances in which the dispenser is entitled to exercise his judgment concerning a prescription but the substitution of one drug for another, or of imitations for proprietary articles of accepted reputation, is not one of those circumstances. The medical man is accustomed to depend upon the pharmacist for a faithful discharge of the obligations of the written prescription, a consideration which no doubt determined the attitude of certain leading members of the pharmaceutical profession, and the President, Vice-President, and several members of the Council of the Pharmaceutical Society appeared to give evidence in favour of Burroughs, Wellcome, and Co. For the reasons implied above we congratulate Burroughs, Wellcome, and Co. upon the result of the action. Their intent to approach the public through the medium of the medical profession only was used against them in a manner which could but enlist for them the sympathies of all practitioners.

ARGON IN ATMOSPHERIC AIR.

AN interesting communication was made recently to the Paris Academy of Science on the above subject. M. Moissan reported that he had followed up the researches of M. Schloesing who had already determined the proportion of argon existing in certain specimens of air. By utilising the property which calcium possesses of absorbing at one and the same time the oxygen, the nitrogen, and all the impurities which are found in atmospheric air, and by the use of a special apparatus of which he had already given a description to the Academy, M. Moissan had been able to estimate the amount of argon found in the air of Paris, of London, of Berlin, of Vienna, of St. Petersburg, and of Athens. In all these towns the amount was identical. The same proportion of argon was also found in samples of air taken in the Channel, in the Ionian Sea, in the Gulf of Naples, in the valley of Chamounix, at the Grands Mulets, and at the top of Mont Blanc. Air collected in the middle of the Atlantic appeared to be slightly richer in argon than that from other places. Calcium will combine with the hydrogen which is produced during reactions, forming a hydride which is not decomposed at a temperature of 500° C. All this illustrates the remarkable uniformity of the composition of the air. M. Moissan does not appear to refer to the question of small quantities of helion which may possibly occur in the air or as to what its behaviour would be when exposed to hot calcium. The results as regards argon are of interest and the observation that the air collected in the middle of the Atlantic appeared to contain a slightly greater proportion of argon than that from other places is probably in some way connected with its solubility in water and the great and frequent variations of atmospheric pressure to which the Atlantic ocean is liable.

THE MILK-SUPPLY OF FINSBURY.

A SPECIAL report has been printed in accordance with the instructions of the public health committee of the metropolitan borough of Finsbury in which the medical officer of health, Dr. George Newman, gives a very complete account of the position of the milk-supply of that place. Dr. Newman points out how difficult it is to trace the exact source of the milk sold wholesale or retail in the shops, so complex is the system by which the milk reaches the consumer from the point of production. And yet the importance of being able to do so is obvious when the question of milk and its relation to disease is considered. It is not easy to trace milk to its origin or to discover where or how contamination or adulteration originated. It appears that 90 per cent. of the cow's milk consumed in Finsbury is obtained from country farms and that 95 per cent. of the contributory farms are situated

at a greater distance than 100 miles from London which, of course, means that the milk must be 12 hours old before it reaches the shops. Dr. Newman states that as a general rule the country cowsheds from which this milk is derived are ill-lighted, overcrowded, badly ventilated, and badly drained. There is also little or no guarantee that the milk is derived from healthy cows free from tuberculosis. Again, the milk shop is sometimes found to be in anything but a sanitary environment. In Finsbury it is further stated that the adulteration of milk in 1901 was 22 per cent., that is to say, 7 per cent. higher than the average for all London. Dr. Newman therefore very properly calls attention to these facts and adds that in the face of them much remains to be done by the borough council in the direction of the control of the milk-supply in Finsbury.

THE ROYAL INSTITUTION OF GREAT BRITAIN.

THE Christmas course of lectures at the Royal Institution will be delivered by Professor Ray Lankester, director of the natural history department of the British Museum. These lectures, which will be illustrated by lantern slides and adapted to a juvenile auditory, will deal with the subject of Extinct Animals and will be delivered on Dec. 29th and 31st, 1903, and Jan. 2nd, 5th, 7th, and 9th, 1904, at 3 P.M. on each day. Various extinct mammals will be described in the first four lectures, birds and flying reptiles in the fifth lecture, and newts, salamanders, and fishes in the sixth lecture. The Tuesday afternoon discourses will commence on Jan. 12th, when Professor L. C. Miall of the Yorkshire College, Leeds, will deliver the first of a series of six lectures on the Development and Tranformations of Animals. The Friday evening discourses will commence on Jan. 15th with an address by Lord Rayleigh on the subject of Shadows. The programme of the lecture arrangements up to March 26th, when the Easter recess will commence, includes a great variety of topics

TEETH IN THE TEMPORAL BONE OF HORSES.

THE occurrence of teeth in the temporal bone of horses formed the subject of an interesting communication by Mr. J. Bland-Sutton in the recent issue of the Transactions of the Odontological Society of Great Britain. This anomaly, which has been especially studied by French writers, has attracted but little attention in this country. The clinical features of these cases are briefly as follows. A swelling occupies the region of the temporal fossa and communicates with the surface by a sinus situated near the base of the ear. A probe passed along the sinus comes in contact with a hard body which invariably proves to be a tooth. The position of the sinus is of interest and it is not clear whether the sinus is congenital or arises as a consequence of suppuration as the tooth develops; indeed, Hensinger[1] regards the condition as due to persistent branchial fistula. The teeth, varying in number from one to four, are misshapen and of a molar type and in some cases are so ill-formed as to come under the category of odontomes. The condition in all recorded cases is unilateral and Mr. Bland-Sutton thinks that the malformation may be teratoid and allied to a somewhat similar anomaly in sheep. With regard to the origin of these teeth Mettams[2] suggests that the tooth-bearing cysts and the associated sinus are due to a developmental error in connexion with the first branchial cleft. A small portion has been separated off and along with it there is included parts of the tooth-bearing segment of the palato-pterygoid division of the arch. From the point of view of pathogenesis, Mr. Bland-Sutton suggests that the abnormality should be studied in connexion with cervical teeth of sheep. These animals are liable to an anomaly in the neighbourhood of the ear which consists of a fistula opening near its base with the orifice invariably surmounted by an incisor tooth. In one specimen examined the tooth was lodged in a bony pedicle surrounded by mucous membrane of the same features as the gums, and the cutaneous recess in which it was accommodated presented in the aspect in contact with the tooth a number of processes resembling the papillæ in the sheep's lips. The arrangement of the wool on the outer surface of this accessory lip was identical with that covering the normal lip of the animal. In another specimen examined by Gurt[3] two deciduous incisors were lodged in a miniature but unmistakeable mandible and associated with a tongue of corresponding size, while the fistulous tract communicated with the pharynx. These facts suggest that the teeth and associated structures are the remnants of an attached or parasitic fœtus and the cutaneous opening represents its mouth. A more careful examination is required of the anomaly of teeth in the temporal bone of the horse before any decisive statement can be made but the anomaly in the sheep seems to throw light on the pathogenesis.

[1] Deutsche Zeitschrift fur Thiermedicin, Band ii., 1876.
[2] Veterinarian, vol. lxxii., p. 3.9.

THE COMPARATIVE GERMICIDAL EFFICIENCY OF DISINFECTANTS.

IT is time that some system of control should be organised with regard to disinfectant preparations by which some assurance could be given of their actual germicidal efficiency. There is no doubt that many proprietary disinfectant preparations on the market have exaggerated claims made for them in this respect and there are not a few which are practically worthless as germ destroyers. From time to time private investigations have been made on correct lines, in which the relative germicidal efficiency of a number of disinfectant preparations has been stated and the results have been of value. But it seems to us that what is wanted is a well-organised system by means of which the absolute efficiency of a disinfectant preparation can be guaranteed. The need of such an organisation is felt in America as well as in other countries and recently a practical paper upon the subject was read by Mr. B. R. Rickards at a meeting of the Massachusetts Association of Boards of Health, Boston, the details of which are of interest. The author's results may thus be summarised. Formaldehyde solution or formalin, although commonly supposed to be superior to carbolic acid as a liquid disinfectant, is really much inferior in equivalent per centum solutions. This fact is all the more striking when the high efficiency of formaldehyde as a gaseous disinfectant is considered. Formaldehyde is also a most efficient deodoriser The coal-tar proprietary compounds are, as a rule, very good disinfectants. They are not any better, however, than carbolic acid. Moreover, the composition of the proprietary articles may be varied and the purchaser be none the wiser. Carbolic acid is preferable in all cases when its odour and properties are not objectionable. The various colourless solutions put upon the market under fanciful names are, as a rule, of little value as disinfectants, their cost usually increasing in inverse ratio to their efficiency.

THE secretary of King's College Hospital has received a letter from the clerk to the Worshipful Company of Drapers stating that the company views with approval the proposal to move the hospital. The company has therefore voted the sum of £5000 from its corporate funds to the removal fund, conditionally upon the balance of the sum of £300,000 required

[3] Thierische Missgeburten, Berlin, 1877, Tafel xv.

being raised by voluntary contributions within the next 12 months. We can only hope that this generous offer will not be lost by any failure to raise the balance. A statement has just been authoritatively issued that the donor of the site for the new buildings of the hospital is the Hon. W. F. D. Smith, M.P., who is the chairman of the removal committee and treasurer of King's College. Mr. Smith wishes his donation to be associated with the memory of his father the late Mr. W. H. Smith who was for many years treasurer of the hospital, and the committee have accordingly decided to associate that gentleman's name with the central administrative block of the new hospital.

Dr. A. Marmorek, whose paper on Antituberculous Serum and "Vaccine" we published last week (p. 1642), has intrusted some of his serum to Dr. Arthur Latham for the purpose of an experimental trial of its properties in England. At present Dr. Latham has under observation in this connexion three cases at St. George's Hospital and two at the Brompton Hospital and next week he will have more cases. Dr. Latham thinks that in the course of a few months he and his colleagues will have collected sufficient evidence from the English cases in order to enable them to form a trustworthy opinion as to the advantages of the treatment. Dr. Latham will have the benefit of the personal advice of Dr. Marmorek who intends to come to London once a month; he was in London last week and gave the first injections himself before a number of Dr. Latham's colleagues.

THE British Dental Association has appointed a committee (in connexion with the inquiry at present taking place as to the alleged physical degeneration of the British race) to investigate the question of the alleged increase of dental caries. With this object the committee is anxious to examine British skulls and teeth of the last few centuries if possible. Early British skulls are to be found in museums and elsewhere in considerable abundance, but with the exception of Professor Thane's collection of skulls from Whitechapel (? plague pit) none of more recent date have been examined. The honorary secretary of the British Dental Association, 32, Leicester-square, London, W.C., would be grateful for any information concerning any such collection, if existent.

THE medical officer of health of the Cape Colony states that for the week ending Nov. 21st only 1 case of plague was discovered in the Colony—namely, that of a native male found dead on Nov. 15th in King William's Town. Plague-infected rats were found at East London, Knysna, Lady Grey Bridge, and on board a ship in Cape Town Harbour. As regards the Mauritius, a telegram from the Acting Governor received at the Colonial Office on Dec. 11th states that for the week ending Dec. 10th there were 76 cases of plague and 46 deaths from the disease.

THE King has approved of the appointment of Dr. John Mitford Atkinson (principal civil medical officer) to be an official member of the Executive Council of the colony of Hong-Kong.

Mr. Edward D. Madge, M.R.C.S. Eng., L.R.C.P. Lond., has been made an officer of the Order of the Crown of Roumania by H.M. the King of Roumania.

DONATIONS AND BEQUESTS.—The executors of the will of the late Mr. Robert Munn have paid to the Victoria Hospital for Burnley and District £8006, being the residuary estate of the testator bequeathed by him to the hospital.

THE FINAL REPORT OF THE ROYAL COMMISSION ON ARSENICAL POISONING.[1]

II.

IN our first article on this subject in THE LANCET of Dec. 12th, p. 1674, we dealt with Parts 1 to 3 of this report and gave an account of the Commission's conclusions regarding the toxicity of small quantities of arsenic taken for considerable periods together with beer and other articles of food and drink and its recommendations as to the tests which should be employed for the detection and estimation of arsenic in various substances. Part 4 of the report deals with the ways in which foods are liable to become contaminated by arsenic. When a question of risk of arsenical contamination arises the food manufacturer often argues that as the amount which could reach his products is in any case small there is no need for him to take special precautions in obtaining his glucose, colouring matters, or other ingredients which happen to be in question, and if small amounts of arsenic are found in his goods he urges that almost any substance will be found to contain arsenic, if enough of it is examined by modern methods.

The Commissioners have evidently been fully alive to objections of this kind in preparing Part 4 of their report, and they deal with the question in a thoroughly practical manner. Taking first ingredients of food, or substances used in food preparation, which are liable to contain arsenic, and next "finished foods," they show in each instance what is the extent of the liability to be arsenical, assuming carelessness or ignorance on the part of the manufacturer; what quantities of arsenic have been found in particular specimens; and what degree of purity is habitually obtained commercially or is readily attainable if reasonable precautions are adopted.

The Commission has obtained its information on the subject by hearing evidence of manufacturers, by correspondence with public analysts, and by instituting a series of inquiries at places of food manufacture, on which a report has been made by Mr. H. Hammond Smith. A number of foods obtained by the Commission have been examined for arsenic in the laboratory of Dr. G. McGowan and a large number of analyses made in the Government laboratory in connexion with brewing materials have also been reported to the Commission. The following substances are among those dealt with in the final report.

Mineral Acids.

Directly or indirectly sulphuric acid is used, sometimes in relatively large amount, in the preparation of a variety of foods.

The greater part of the sulphuric acid used for manufacturing and general purposes in this country is obtained by roasting pyrites ores, imported mainly from Spain and Portugal. Such ores, notably those from certain mines contain large proportions of arsenic. Acid thus manufactured, unless subjected to a de-arsenication process, is invariably arsenical. At works where a de-arsenication process is carried out the system of manufacture usually followed necessitates the production, in addition to the de-arsenicated acid, of an acid derived from the Glover tower which habitually contains a high proportion of arsenic. This, however, is not the case where the acid is prepared by synthetic processes which have been introduced in recent years. The sulphuric acid ("B.O.V.") supplied in 1900 by Messrs. Nicholson and Sons to Messrs. Bostock and Co. was contaminated by arsenic to an exceptional and enormous degree. As much arsenic as 1·35 and 1·9 of arsenious oxide per cent. has been estimated in certain samples of this acid. Chemical and other technical witnesses are agreed that de-arsenicating processes when thoroughly and uniformly applied at works where acid is obtained from pyrites produce an acid which is practically free from arsenic. Such de-arsenicated acid of the quality and specific gravity usually supplied commercially, when tested by a delicate test, shows either no arsenic at all or else only minute amounts of arsenic. Proportions of arsenic as high as from 2 to 3 parts per 1,000,000 (approximately 1-70th to 1-50th grain per pound of acid) can only occur if the de-arsenication is not properly carried out.

Commercial hydrochloric acid, as is well known, frequently contains arsenic. A recent specimen showed as much as 1·12 grammes of arsenious oxide per litre. The liability of this acid to be arsenical, however, is relatively small when it is prepared by "cylinder" and other processes in which special care is taken to employ pure sulphuric acid.

Glucose and "Invert" Sugar.

The glucose used by brewers is usually "solid." It is

[1] Cd. 1848. Eyre and Spottiswoode, price 5½d.

manufactured on a large scale at factories in Great Britain and a considerable quantity is also imported from America and Germany. The glucose used for confectionery, syrups, and other food purposes is generally "liquid" and is almost always imported. Solid and liquid glucose alike are liable to contain arsenic derived from sulphuric or hydrochloric acid, which are used in varying proportions (e.g., from 2 to 6 per cent.) in the "conversion" process by which the glucose is manufactured from starch. In view of the circumstances of the epidemic of 1900 it is unnecessary to insist upon the high degree of arsenical contamination of glucose which may be brought about by neglect of precautions regarding the quality of the acid used. Solid glucose manufactured by Messrs. Bostock and Co. in 1900 in several instances was ascertained to contain as much arsenic as three grains per pound, and even larger proportions of arsenic were estimated in a few specimens.

With due attention to the purity of the chemical substances employed there is no difficulty in producing glucose which is free from arsenic. Notwithstanding recent events arsenical glucose is still occasionally met with; some samples (both of home and foreign manufacture) have shown, for example, from 1-40th to 1-12th of a grain of arsenic per pound. But such instances have been few. Brewers' glucose is now generally free from arsenic, and the arsenic detected in some specimens has seldom exceeded 0·004 grain per pound. Similar conditions obtain in the case of the "invert" sugar which is used by brewers and sometimes also by manufacturers of cider and fermented "temperance drinks." About 3 per cent. of sulphuric acid is used in the preparation of this form of sugar.

Glycerine.

The observations of the report on glycerine are of interest. It is not generally known that as much as 3 per cent. of glycerine is sometimes added to cakes to keep them moist, or that this substance is used in certain meat extracts and confectionery. Large quantities of arsenic (one grain or even three or four grains per pound) were discovered a few years ago in several samples of glycerine. The attention then given to the subject has no doubt secured considerable improvement, but it is instructive that public analysts and others shortly after the 1900 epidemic reported objectionable quantities of arsenic in several samples of British and foreign glycerine sold for pharmaceutical purposes. A special test for arsenic ("Gutzeit" method) was introduced into the British Pharmacopœia in 1898.

The report notes, however, that—

Doubts have been expressed as to the sufficiency of this pharmacopœial test. It has been stated that this test may fail to detect quantities of arsenic which though comparatively small are nevertheless easily avoidable, and also that the quantity of arsenic which would transgress the limit defined by this test is somewhat uncertain. We have been in communication with the Pharmacopœial Committee of the General Medical Council with reference to this matter and we understand that the sufficiency of the official test for arsenic in glycerine is now under their consideration.

Colouring Matters: Caramel.

Oxide of iron, sold under various names, is the chief mineral colouring matter used in food. It is frequently obtained from the residue in the manufacture of Nordhausen sulphuric acid, and this is no doubt the reason for the considerable quantities of arsenic which have been found in some specimens. Coal-tar or "aniline" colours are in many cases prepared by the use of large quantities of crude sulphuric acid. Aniline colours used by sweet manufacturers have been found in some cases to contain as much as, or more than, half a grain of arsenic in the pound. Caramel has usually been found free from arsenic, but owing to the use of impure alkali in its preparation it is liable to be arsenical and as much as a quarter of a grain per pound has been reported in certain instances.

The report gives a useful warning (though on a matter somewhat outside the Commission's reference) as to the use of emerald green.

Coloured salts of arsenic, such as Scheele's green or emerald green, are so notoriously poisonous that it may be assumed that they are never used in food, and are avoided by manufacturers of toys or other articles which may be given to children or used about the house. The use of emerald green to colour wax tapers or candles appears to us objectionable and dangerous. Mr. William Thomson informed us last year that he had detected as much as 5·32 per cent. of arsenious oxide in green tapers thus coloured.

Other Chemical Substances used in Food.

Arsenic is well known as an impurity of commercial phosphates, which are largely used in baking powders, and of phosphoric acid, which is used in sugar refining and mineral waters. These substances have lately been purer as regards arsenic than was formerly the case. In some samples of commercial borax over one-third of a grain of arsenic in the pound has been reported. Considerable quantities of arsenic have been determined in certain samples of beer "regenerators," consisting mainly of alkaline carbonates used to treat beer which is going sour, and in other chemical substances used by brewers. In all these cases the Commission points out that satisfactory degrees of purity can be obtained commercially.

Malt.

The liability of malt to be contaminated by arsenic was first recognised after the cause of the 1900 epidemic had been ascertained. Considerable amounts of arsenic have been reported by different witnesses to have been found in malt; as much as 1-20th grain and exceptionally even 1-6th grain of arsenic per pound have been detected in some samples, while numerous analyses have been reported to us in which the malt has been found to contain from 1-100th to 1-30th of a grain of arsenic per pound. The presence of notable quantities of arsenic in malt has been confirmed by analyses of beer in which it seems certain that no arsenic was introduced otherwise than by way of the malt used.

The question of arsenic in malt has lately received close attention from brewers and maltsters, and malts as a whole have in consequence improved in this respect. All our evidence goes to show that it is now commercially practicable to produce malt which either may be considered free from arsenic, or in which the amount of arsenic present is certainly less than 1-250th grain per pound (0·57 part per 1,000 000), and that most of the malt prepared during the past two years has been of this character.

Owing to the practical difficulties which have arisen the report gives a considerable space to the various ways in which it has been found possible to avoid the risk of malt becoming arsenical. Brewers and maltsters appear to hold that the products of combustion, whether of anthracite, gas coke, or oven coke, are essential to give a flavour to malt which is necessary for beer. Kilns constructed so that the malt-drying is wholly effected by means of heated air have lately been introduced but they have not got beyond the experimental stage. The Commission is not satisfied with the evidence that the products of combustion are necessary and recommends that the new systems should receive careful attention from brewers and maltsters who are about to erect new kilns. The use of gas coke for malt drying has been shown to be dangerous and has now been largely discontinued; oven coke, which is less objectionable, has also been discontinued to a considerable extent. It cannot be said that the use of anthracite, as such, affords complete security. Much depends upon the selection of this fuel and on the extent to which pieces of pyrites, shale, and other "impurities" which contain arsenic are picked out of the anthracite at the colliery or by the maltster. The Commission had instituted an important inquiry into the presence of arsenic in malting anthracites and in "impurities" of anthracite seams with the aid of Mr. A. Strahan, F.R.S., of the Geological Survey, and others, and they indicate the principles which should guide maltsters in the proper selection of their fuel. The objections to relying solely on chemical analysis in the case of fuel, owing to the question of sampling and other practical difficulties, was emphasised by one of the Commissioners, Dr. Whitelegge, in the interim report of 1901 and the final report points to the more practicable method of picking out obvious impurities, such as pyrites, from anthracite as the first and most important step in the selection of satisfactory fuel.

The problem may also be attacked in other ways by "treating" the fuel with lime which prevents the arsenic from becoming volatilised, by placing lumps of limestone at the outlet of the kiln furnace, and by modifying the construction of the kiln so that the major portion of the hot air has not come into contact with the fire. In any case it is evident that frequent and thorough cleansing of the interior walls of the kiln is essential as the sweepings from these walls have been found to contain a surprising amount of arsenic which is liable to be volatilised again and carried to the malt on the drying floor above. The report notes that the drying of chicory roots in Belgium and France is in many respects comparable to malt drying and that the small amounts of arsenic (up to 1-100th of a grain per pound) reported in some samples of chicory are to be accounted for in this way.

Among "finished foods" which are liable to arsenical contamination the following are mentioned:—

Beer.

The liability of beer to be contaminated by arsenic arises mainly through the use in brewing of arsenical glucose, invert sugar, and malt, or by the addition of arsenical invert sugar or glucose as "priming" after the wort has been fermented. The degree of contamination which

may arise in these ways is abundantly illustrated in our evidence. Since the 1900 epidemic and the appointment of this Commission close attention has been given by brewers to the exclusion of arsenic from these and other substances used in brewing and various precautions have been extensively adopted with the object of eliminating all risk of arsenical contamination of beer. We have referred in the first part of this report to evidence that, notwithstanding the general adoption of these precautions, beer has been occasionally met with in which notable amounts of arsenic (for example, 1-20th or 1-30th of a grain per gallon) have been found. But such instances at the present time may be considered quite unusual. We are satisfied from the evidence received during the later part of our inquiry that much of the beer sent out at the present time from breweries in this country may be regarded as free from arsenic and that arsenic, where detected, is usually in minute amount. All the chemical witnesses from whom we have recently had evidence (including responsible chemical advisers of breweries) have been agreed that it is commercially practicable to produce beer which uniformly shows less arsenic than 1-100th of a grain per gallon and in which as a rule any arsenic present is in much smaller proportion than this.

Golden Syrups; Treacle; Foods containing Glucose.

Golden syrup and treacle are usually prepared from cane or beet sugar by the addition of about 2 per cent. of sulphuric acid. Glucose is an ingredient of a large variety of foods. Certain syrups sold as "table syrup," "amber syrup," and the like, consist largely of liquid glucose. Jams and marmalade frequently contain from 5 to 10 per cent. of glucose and sometimes larger amounts. Glucose may be mixed with honey or used as a basis for the manufacture of "artificial honey." Certain kinds of sweets and confectionery, again, consist largely of glucose.

It is satisfactory to read that British manufacturers of golden syrup and treacle have been in the habit of taking strict precautions to obtain pure sulphuric acid and that many manufacturers have lately made a practice of testing the glucose which they use. But the report notes that—

Certain manufacturers whose products contain large proportions of glucose appear to have considered it unnecessary to take any steps to assure themselves by analysis that their glucose was satisfactory in respect of arsenic, notwithstanding the circumstances of the epidemic of 1900.

Vinegar is specially noted, as at some factories the material from which the vinegar is made is raw grain (rice or maize) which has undergone a "conversion" process in which sulphuric acid is used in much the same way as in the manufacture of glucose.

Demerara sugar has been found to contain small quantities of arsenic, exceptionally 1-50th of a grain per pound, derived from chloride of tin used to colour West India sugar or from impure phosphoric acid.

In general, the Commission appears to have found little evidence of the presence of arsenic in *malted foods*. It draws attention, however, to a preparation termed "Carnos" made from yeast and malt culms obtained from a Yorkshire brewery. In four different samples of this food Dr. McGowan found from 1-25th to 1-6th of a grain of arsenic per pound.

Foods containing glycerine and colouring matters are also dealt with.

Bole Armenia and other mineral colouring matters consisting mainly of oxide of iron are frequently added in considerable proportion in the preparation of a variety of foods—for example, sausages, anchovy preparations, cocoa, and certain kinds of sweets. Material quantities of arsenic may be contributed to these substances in this way. Thus Mr. Hehner in June of this year informed us that he had estimated approximately 1-20th or 1-25th grain of arsenic per pound in a "chocolate powder" largely sold in London at a cheap price, which had been contaminated by arsenic through the use of oxide of iron. He also estimated the arsenic in certain sweets, similarly coloured, at 1-30th grain per pound.

The Commission has found no evidence that the use of arsenical superphosphates as manure will cause contamination of ripe grain or roots. Other inquiries have been attended with reassuring results, especially an examination of enamelled cooking utensils from a large number of factories which indicates that the use of arsenic as an ingredient of the enamel has now been generally discontinued.

The report makes a series of recommendations in Part 5 as to the precautions which should be taken by manufacturers to exclude arsenic from foods. These comprise practical suggestions as to the substances to which attention should be given, as to the extent to which it is necessary that their purity should be controlled by analysis, and as to the significance which should be attached to any guarantees asked for or given in the case of ingredients such as sulphuric acid, glucose, malt, or colouring matters.

The Commission objects strongly to the giving of guarantees of "freedom from arsenic" based on crude tests or insufficient frequency of testing. The application of the Marsh-Berzelius test is now well understood and the Commission is of opinion that in all cases where arsenic is detected its amount should be estimated. For practical purposes it recommends certain limits, on the understanding that these do not represent standards of purity but merely of what should not be tolerated:—

We think that no substance should be used as an ingredient of food which contains a larger proportion of arsenic than 1-100th grain per pound, or in the case of solutions 1-100th grain per gallon. In many cases (particularly glucose and malt) more stringent limits are now attainable commercially and should be insisted upon.

Incidentally the report draws attention to, and strongly condemns, the objectionable practice of selling chemical substances to food manufacturers under misleading or ambiguous trade names, giving as an example the sale to bakers of solutions of phosphoric acid, a cheap substitute for tartaric acid, under the name of "liquid tartaric acid." The use of oxide of iron and chloride of tin in food is regarded as objectionable and unnecessary. In one instance lanoline was employed as a substitute for cocoa-butter and owing to the use of arsenical sheep dip this substance is regarded as unsuitable for food purposes.

Review of the Present Means of Official Control over the Purity of Food and Recommendations for Improvements.

We are unable in this article to do more than call attention to Parts 6 and 7 of this report. They comprise a very valuable summary of the present administrative machinery in relation to purity and adulteration of food and an exposition of its many defects. The recommendations which are made for improved administration by the Local Government Board and as to the establishment of food "standards" are eminently practical and moderate and deserve the careful consideration not only of the department concerned but also of all health officers and public analysts, who are frequently baffled by the present unsatisfactory state of the law. Practical proposals are also made for amending the law of "warranty" and for improving the "seizure" clauses of the Public Health Acts.

Pending an authority officially to prescribe standards the Commission advises that amounts of arsenic in food which exceed 1-100th of a grain of arsenic per gallon in the case of any liquid food, or 1-100th of a grain per pound in the case of any solid food, should insure penalty when prosecutions are instituted under the Sale of Food and Drugs Acts.

Doubt was originally expressed in some quarters as to the necessity of calling together a strong Royal Commission for the investigation of the subject of arsenical poisoning by way of beer and other food. But no one who reads this final report will now question that the Government were well advised. Lord Kelvin and his colleagues have fully justified the Commission's appointment by having undertaken a most thorough and valuable inquiry which could not have been carried out by other means, and the Commission by its report and recommendations has rendered an important service to the public.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

A MEETING of the Council of this Fund was held at Marlborough House on Dec. 14th, under the presidency of the PRINCE of WALES.

Lord ROTHSCHILD, the treasurer, in presenting the balance-sheet, said that the financial year had not ended, so that the accounts presented were incomplete. The amount received to Dec 10th was £71,033 8*s*. 3*d*. It spoke very highly for the honorary officials that the collection and distribution of the Fund were made at a cost of under £2000 a year.

Sir HENRY BURDETT said that he was glad to inform the meeting that the League of Mercy would be able to send a contribution of £10,000 to the Fund, which was £2000 more than last year and ten times as much as the amount given in the first year of the establishment of the league.

The report of the executive committee recommended this year the distribution of £99,000 to the London hospitals, making with the £1000 entrusted to the Fund by the London Parochial Charities for the convalescent homes, a total distribution of £100,000.

In presenting the report of the hospitals distribution committee Sir WILLIAM S. CHURCH referred to the great loss

which the Fund had sustained by the retirement of Lord Lister as chairman of the distribution committee.

Sir William Church was elected to fill the post vacated by Lord Lister.

Sir SAVILE CROSSLEY then read the list of awards, which we hope to publish in full in an early issue.

We notice that the Bolingbroke Hospital at Wandsworth has been granted a donation of £1000. This hospital, which is in the centre of a congested population, has recently extended its accommodation and its expenses are necessarily great. Charing Cross Hospital has been given £2000 towards the rebuilding fund and the East London Hospital for Children £1600 to provide isolation and whooping-cough wards. Guy's Hospital, which receives an annual donation of £5000, has been granted £1000, and King's College Hospital, which also receives an annual grant of £1000, has been given the sum of £6500, £5000 of which are to be spent in the removal of the hospital to South London, which the committee views with great satisfaction. The London Hospital, with its annual grant of £5000, will receive a donation of £2000 and the Royal London Ophthalmic Hospital a donation of £2500. A sum of £2000 has been given to St. George's Hospital and one of £2000 to University College Hospital. A donation of £1000 has been granted to the West London Hospital, Hammersmith-road, W.

HIS ROYAL HIGHNESS, in moving the adoption of the report of the executive committee, said: My Lords and Gentlemen,—I beg to move the adoption of the report and in doing so to express my hearty concurrence with the recommendations of my committees and approval of the various grants and of the conditions upon which in some instances these have been made. You will, I know, join with my feelings of deep regret at our loss through the deaths of Cardinal Vaughan and Lord Rowton. We have also sustained a further serious loss in the retirement of Lord Lister who since the inception of the Fund has been chairman of the distribution committee. I trust that with improvement in his health we may again have the benefit of his valuable services. In reviewing the results of this year's work I have to admit that the hopes which I expressed 12 months ago that another £10,000 a year would be forthcoming, have not been fulfilled. But the year 1902 was an exceptional one, as a large sum was contributed specially as a coronation gift. We have, however, in addition to the sums set aside to be invested and those given in the form of investments, a considerable balance which can be utilised at the discretion of the general council. Upon this balance we have decided to draw for this year only in order that the amount for distribution among the hospitals may not be less than that of last year. We have not come to this decision without duly considering those two opposing principles one of which deprecates any encroachment upon our reserves, while the other advocates the expenditure of subscriptions with a view of relieving present necessity rather than of placing them to capital account. We are anxious not to go back in the work initiated by the King, and in the fulfilment of which I consider a sacred trust was confided to me. Our aim must be steady progress and to secure public confidence. I venture to draw attention to the enormous sums for which appeals are now contemplated by the London hospitals. According to my information, if we take only 12 hospitals out of more than 100, thus omitting many which are contemplating appeals, these sums amount to £700,000. This is exclusive of a probable appeal on behalf of St. Bartholomew's Hospital for a sum varying between £300,000 and £600,000. Hence the public must be prepared for appeals to provide over £1,000,000. And in addition to this there are other hospitals not included in this list, many of which have equally pressing needs. It is indeed a serious question whether some limit should not be put upon hospital extension works, and I trust that new schemes will not be undertaken by any hospitals without grave consideration of these heavy demands now being made on the charitable public. It is also a matter of regret to find that in the hospitals where the charges for maintenance were held to be too high no adequate reduction has yet been made. No doubt this matter will next year receive the close attention of the distribution committee. With regard to King's College Hospital I note with the utmost satisfaction its removal to South London. The importance of establishing in that vast population a large hospital with a medical school is known to all and I am glad that the decision seems to have met with general approbation. The amount allocated to the amalgamation of orthopædic hospitals is large but I fully concur with the distribution committee in its view of the great importance of establishing in London one first-rate orthopædic hospital. You will, I am sure, join with me in congratulating the League of Mercy on the steady progress made and the increased aid given by it to the Fund. It is a matter of satisfaction to find that the trustees of the London Parochial Charities continue to entrust us with the administration of the £1000 which they allot to convalescent homes. We are satisfied that in allocating these grants chiefly to convalescent homes connected with London hospitals we are acting in conformity with the views both of the supporters of the Fund and of the trust. The continued success of the Sunday and Saturday Funds proves that, as promised by the King, we have not trespassed upon their field of operations. The meeting of the Sunday Fund takes place to-morrow. We trust that the results may be in every way satisfactory and we look for continued coöperation with the other hospital funds. I have much pleasure in offering my congratulations to one of our honorary secretaries (Mr. J. G. Craggs) upon the honour conferred upon him by His Majesty, the patron of the Fund, in recognition of his valued services since the inauguration of the undertaking. I am directed by the King to express his high appreciation of the efficient manner in which the work of administration of the Fund has been conducted during the past year. His Majesty was especially pleased with the evident care and thought which had been bestowed upon the list of grants to hospitals and with the judicious decisions come to by the distribution committee. I have now great pleasure in moving the adoption of the report.

The LORD MAYOR of LONDON, supported by the Duke of FIFE, seconded the adoption of the report, which was carried unanimously.

A vote of thanks to the Prince of Wales, proposed by the Rev. J. GUINNESS ROGERS, was carried, to which HIS ROYAL HIGHNESS replied, and the proceedings terminated.

METROPOLITAN HOSPITAL SUNDAY FUND.

THE annual general meeting of the Metropolitan Hospital Sunday Fund was held at the Mansion House on Dec. 15th, when the Right Hon. Sir JAMES T. RITCHIE, Lord Mayor, president and treasurer of the Fund, presided.

The report of the council for the year 1903 stated that—

The thirty-first year of collecting this Fund has resulted, under the presidency of the Right Honourable Sir Marcus Samuel, Bart., Lord Mayor, treasurer, in a total of £64 975 12*s.* 3*d.*, the largest amount ever collected on Hospital Sunday since it was founded in 1872. The collections made in places of worship have again resulted in a record amount of £49,238 15*s.* 9*d.*, being an increase of £2907 13*s.* 4*d.* over those of last year. Their Majesties the King and Queen, with other members of the Royal Family, attended at St. Paul's Cathedral on the afternoon of the Sunday preceding Hospital Sunday, June 7th, when, at the express desire of the King, the services were for the Hospital Sunday Fund. The metropolitan Cathedral of St. Paul's heads the list with £5389 2*s.* 9*d.*; the Rev. Prebendary C J. Ridgeway, of Christ Church, Lancaster Gate, £1593 5*s.* 4*d.*; the Rev. Canon Fleming, B.D., of St. Michael's, Chester-square, £1408; and the Rev. Canon Pennefather sent £1019 14*s.* from the parish of St. Mary Abbots, Kensington. Mr. George Herring has again generously added one-fourth to the amount collected in places of worship. This year his gift has been £12,302. The number of congregations which have collected this year shows the satisfactory increase of 62. An invitation to join in Hospital Sunday was sent to most of the clergy in the home counties, but only some 20 congregations responded. It cannot be too often repeated that these country districts furnish a large proportion of the in-patients in our hospitals. Mr. William Herring gave a special donation of £1000 at the collection in St. Paul's Cathedral on June 7th; Sir Savile Crossley has again divided his contribution of £1000 between this Fund and the King's Fund; "S. L. In Memoriam," £100; and "Delta" sent his twenty-fifth donation of £200.

In proposing the adoption of the report, Alderman Sir JOSEPH SAVORY, Bart., M.P., said that the Fund owed a special debt of gratitude to the Rev. Prebendary Ridgeway of Christ Church, Lancaster Gate, to the Rev. Canon Fleming of St. Michael's, Chester-square, and to the Rev. Canon Pennefather of the Parish of St. Mary Abbots, Kensington, for the splendid contributions which they had made towards the total sum collected.

The CHIEF RABBI, in supporting the motion for the adoption of the report, referred to the loss which the Council had sustained by the death of Mr. A. L. Cohen.

Before putting the motion to the meeting the LORD MAYOR

read an amendment which had been handed to him by the Hon. Stephen Coleridge with reference to the alleged use of the grants made by the Metropolitan Hospital Sunday Fund for the purpose of hospital school or college teaching.

Mr. RICHARD B. MARTIN, M.P., and the LORD MAYOR said that the awards of the Fund were made for the relief of the sick poor in the hospitals and not for the purposes of medical education.

Canon BASIL WILBERFORCE, who was to have seconded the amendment of the Hon. Stephen Coleridge, said that if this were so the amendment must fall to the ground.

A speaker in the body of the hall asked, if it were found that a hospital had made a grant to its medical school out of the sum awarded by the Metropolitan Hospital Sunday Fund, whether the amount so misused would be deducted by the Fund when it made its next distribution.

The LORD MAYOR replied in the affirmative.

The report was then adopted.

On the motion of the Rev. R. L. ALLWORK, seconded by Mr. R. W. DIBDIN, the council was re-elected with the addition of the following gentlemen to fill vacancies—Sir Marcus Samuel, Bart., the Rev. Frank Freestone, the Rev. J. Scott Lidgett, and Mr Arthur T. West.

Sir SAVILE CROSSLEY, P.C., M.P., proposed, and Lord MEATH seconded, a vote of thanks to Mr. George Herring for his generosity which had assisted the Fund to secure the record amount of £64 975 This was carried with acclamation.

The ARCHDEACON of LONDON proposed :—

That June 12th be fixed for Hospital Sunday of 1904 and that the cordial cooperation of all ministers of religion within the metropolitan area be again invited in the usual way.

In doing so he referred to the Royal visit to St. Paul's Cathedral this year which, he said, was due to the initiative of Sir Edmund Hay Currie, the secretary of the Fund. The Rev. W. H. HARWOOD seconded the proposition, which was adopted.

On the motion of Sir HENRY BURDETT, seconded by Sir WILLIAM CHURCH, an addition was made to Law IX. of the Constitution, which now reads :—

In the event of a congregational collection made on Hospital Sunday being given to a particular hospital, dispensary, or institution, instead of being sent to the General Fund, the amount so sent shall be deducted from the grant made to that hospital, &c., and can in no case be included as forming part of the Fund. And in the further event of a particular hospital, dispensary, or institution fixing any day or days in the week immediately preceding Hospital Sunday in any year for the purpose of pressing the claims of such institution upon the public it shall be an instruction to the committee of distribution, when determining the award to such institution, to take into consideration the amount received from such an appeal and the loss, if any, resulting therefrom to the Fund.

This was carried and the meeting terminated with a vote of thanks to the Lord Mayor who, in his reply, said he hoped that during his year of office the sum collected by the Fund would exceed any previous amount.

THE REPORT OF THE COMMISSION ON THE NATURE, PATHOLOGY, CAUSATION, AND PREVENTION OF DYSENTERY AND ITS RELATION TO TYPHOID FEVER.

WE have received a communication from Dr. George Turner, medical officer of health of the Transvaal, commenting upon the statements contained in the above-mentioned report. Our own summary of the report was published in THE LANCET of August 29th, p. 626. The main portion of Dr. Turner's letter is taken up with a judicially written estimate of the marked differences shown in the report between the opinions of Dr. W. J. R. Simpson and of Colonel J. Lane Notter, R.A.M.C. Dr. Turner was sent in October, 1900, by Lord Roberts on a tour of inspection to all the camps situated between Pretoria and Kaap's Poort and Barberton and he was accompanied by Dr. Simpson and Colonel Notter. All that either of these authorities saw on the tour Dr. Turner saw and that at the same time, so that, to use his own words, "I can form a fair opinion as to which of them most accurately represents the facts." Speaking generally Dr. Turner agrees with Dr. Simpson. With regard to the objection taken by both Dr. Simpson and Colonel Notter to the prevailing system of removal of excreta by bucket Dr. Turner points out that no doubt water carriage is the best method of removal. But water carriage implies a supply of water "and that is precisely what is generally wanting in South Africa." As regards Lord Wolseley's "Soldier's Pocket Book," 1886, Dr. Simpson states that "it was the knell to the development of sanitary science and sanitary administration in the army as a prevention against disease." With this statement Dr. Turner thoroughly agrees. Dr. Turner next proceeds to take Colonel Notter's objections to Dr. Simpson's statements *seriatim* and here we give his own words.

Sanitary Condition of the Camps.

"Colonel Notter (p. 5) says: 'I consider the description of the camps to be greatly exaggerated. In my opinion, except in a few cases of camps occupied by colonial and irregular forces, the general sanitary state of the camps was good. ..... This has been intensified by the free employment of civil surgeons with the army in the field who have had no training whatever in sanitary science or preventive medicine.' This is in reply to a remark of Dr. Simpson (p. 56) as follows: 'The most crude notions and practices prevail which are contrary to the simplest elements of sanitary science. It requires very little descriptive powers to portray the results: polluted water-supplies, filthy latrines, covered with swarms of flies and uncovered with earth, excrement, polluted soil, manure heaps, and dead horses have been the usual accompaniments of camps where large numbers of troops have been located.'

In my opinion Dr. Simpson's general description is not exaggerated. Camps varied considerably as regards cleanliness and selection of position and those occupied by the colonial and irregular forces were not by any means always the worst. The civil surgeon did not always see that his tents were pitched with mathematical regularity and the whitening of the stones to mark out the paths left something to be desired, but as regards essentials it was different. The civil surgeon is just as likely to have received instruction in sanitary matters and is more likely to have had practical experience than is his military *confrère*.

I do not wish to infer that in bad camps all the errors enumerated in Dr. Simpson's general description were to be found but generally one or more of these avoidable errors were committed. The latrine pits were usually defective and no care was taken to prevent the dispersal of paper. At one camp I saw the dam side covered with pieces of paper which had been blown from a pit. On another occasion a regiment, to save the trouble of digging a pit, had actually used the furrow which carried the drinking water into a town. I did not actually see this but I had the evidence of two men who did see it and who told me of it independently and I have no reason to doubt the truth of their statements.

The selection of camps when on the march was often bad. A relative, a civil surgeon, spoke to his commanding officer about the imprudence of camping on the ground occupied by the Boers 24 hours previously as he knew that they had left several cases of enteric fever behind them. The reply was, 'What business is it of yours?' This was on the march and there may have been high strategic reasons for camping on a fæces-sodden soil. But in camps it must be different. I saw men camped out and and actually eating their food on the refuse heaps and within a few feet of a foul latrine. It would have been perfectly possible to have gone elsewhere and not far away. I saw the men camped out on ground on which the slop water of a hospital discharged and actually washing in the foul water. There was no earthly reason for this, there was more than ample room, yet this place of all others was selected. I accidentally ascertained that a rest camp had been formed near the railway. I suspected, from the elevation, that the town water could not reach it and made an examination. My surmise was correct. But water from a filthy sluit was laid on in readiness for the troops. A regiment which had been religiously filtering and boiling water might have camped there for the night and have suffered soon after from typhoid fever, and then the uselessness of filtration, the effects of soil and the agency of flies would have been called into requisition.

The disposal of carcasses was particularly bad. Colonel Notter (p. 4) tried to throw the onus of this on the Civil administration of Pretoria. But the jurisdiction of the municipality of Pretoria does not extend over the whole of the Transvaal and the nuisance was not by any means confined to Pretoria. I have frequently seen carcasses in water furrows and spruits which must have been there for days. As regards Pretoria, the civil administration was carried

out under martial law and the duty of burying carcasses was imposed on the civil administration. Sometimes the number reached 200 in one day. The civilian population of Pretoria could not possibly furnish anything like 200 animals; 90 per cent. of those buried belonged to the military. And when it is remembered that nearly all the draught animals had been commandeered it is marvellous that so much was done; the work was not rendered any easier by the fact that sick animals were driven into the municipal area to die in order that the civil administration might bury them. The difficulty of burning carcasses has, in my opinion, been exaggerated. The process requires little fuel, provided that the carcass is previously opened and the bowels are exposed to the air for 24 hours, then very little brushwood and a small quantity of paraffin will cause it to burn easily. In fact, I burned many carcasses in this manner.

The Water-supply.

This, in my opinion, is the most important of all questions as regards typhoid fever. Colonel Notter writes (p. 139): 'Very stringent orders were issued to all units that the water used for drinking purposes should be boiled before distribution and for this purpose Sawyer's boilers were provided and an extra fuel allowance issued.' And again (p. 4a): 'The statement that it was the general exception for water to be filtered or boiled by regiments I consider to be far from the real facts Commanding officers were most keen on this point and in my experience it was rather the exception to find water not boiled or filtered' This to me is the most surprising assertion in view of the knowledge I possess of what Colonel Notter actually saw while he and Dr. Simpson accompanied me to Komati Poort and Barberton. Dr. Simpson's statement, so far from being exaggerated, is under-stated. I did not see any Sawyer's boilers; they may have been provided at a later period or in other districts but the troops were all supplied with filters.

If asked whether the water was filtered we were generally assured that it was and I have no doubt that the assurance was given in good faith. But we always inspected the filters. On one occasion a screwdriver had to be fetched to open the box, the bougies were all wrapped in the paper in which they left the shop, and the original packing was in the box. This box had been transported God knows how many miles and had never been used. More than once the filter was broken and I remember one was popular on that account because it filtered easily. In some regiments the filters were put up and anyone who liked to have filtered water could filter for himself. In very few regiments was the filtration properly supervised. In one case we were informed that the commanding officer had 'a fad about water,' that 'he had water on the brain' Anyway he had come up from Natal and was then at Waterval Boven and he had not had any cases of typhoid fever. But even when water was filtered no attempt was made to insure that the men did not drink foul water. I am speaking now of camps not on the march.

At Skinner's Court was a well of fine water which could be raised by means of a pump. Dr. Simpson and I watched the men fetching water in their bottles. I did not see a man fill his bottle at the clean well, but several did so from a polluted spring which was about 50 yards nearer the camp and this went on *right in front* of the commanding officer who was sitting outside the tent. At Daspoort camp, where pure water was provided, at great expense in pipes from the Pretoria source, Dr. Simpson and I saw the men, about a dozen, fill their bottles from a leak in an irrigation furrow which contained the foulest water possible. I drew the attention of an officer to the fact and he remarked 'Yes, they will do it.' I went to see this camp because so many cases came into hospital from it. Two of the cases described by Lieutenant-Colonel D. Bruce (p. 29) came from this place.

Dr. Simpson (p. 70) describes the discovery of the supply of foul water to the Pretoria railway-station as the result of an accident. It was hardly that. I had arranged that weekly samples of water should be taken from the reserve and at some ten or 20 points in the town should be analysed. This I did in order to be able to note and to inquire into any slight variations which might appear in the analyses. For three consecutive weeks I noticed that the sample taken at the station differed slightly from the others and that the difference increased As the station tap was so situated that it was subjected to a negative pressure during the daytime I made arrangements with the town engineer to examine the pipes so as to be certain that there was no leakage. We then found that the tap in question was supplied, not from the covered reservoir which contained the same water as the town supply, but from an open sluit which was polluted. A clean supply by means of tanks was provided but the tap, to the best of my knowledge and belief, was never removed although I wished it done. Colonel Notter (p. 4) apparently objects to the remarks of Dr. Simpson as to the water-supply of West Fort as he has no knowledge of it, but the objection is rather far fetched, because at that time Colonel Notter was in hospital and Colonel Bruce was occupied in the laboratory, so that unless the work of the commission was to stop only Dr. Simpson remained to carry it on.

Even when pure water was laid on it was frequently so managed as to become polluted. For instance, water had to be pumped both to the Yeomanry Hospital and to another large hospital, because they were situated at too great a height for the town water to reach them. Therefore wells were formed on the mains in such situations that at night, when the pressure was at its best, they were filled and water was pumped from these wells to cisterns in the hospital. I noticed that in the weekly analyses the number of micro-organisms per cubic centimetre instead of being below 100 amounted to thousands and, therefore, I inspected these supplies. In one instance the well was uncovered on the level of a very dusty road over which much traffic passed. In the other instance the well was in a shed; it was imperfectly covered, and on the cover were remnants of bread and meat. I concluded that a pet dog had been fed there. I may be wrong but the pieces of meat and bread were there and had no business there.

Colonel Notter (pp. 4–6) says, 'Too much is made of failure to put a guard on a particular disused water-supply. It must be remembered that the men were getting one night in bed per week owing to the onerous duties then prevailing.' He evidently misunderstands Dr. Simpson. If the paragraph mentioned in the note is referred to it will be seen that though the remarks are applied to the Daspoort incident it was in the second paragraph made generally applicable. I can substantiate Dr. Simpson's remark. I cannot remember any attempt being made to prevent men from drinking bad water. It may have been done, but although I was constantly making inquiries I never came across a case. As regards the Daspoort incident an officer and many engineers were working day and night within a few feet of the place at which the men took the foul water. The plea cannot hold water.

A civil surgeon, a relative, informed me that he had seen a guard placed at a drift from which an engine was pumping water. No one was allowed on the banks. Well and good, but he added that the men bathed and washed their *clothes above the place*.

But there was even a grosser case of neglect. During my investigations as to the origin of certain cases of enteric fever I became convinced that they were caused by drinking soda-water from a particular factory. I had a sample analysed and the analyses showed not only that the soda water was not prepared from the town water-supply but that the water was polluted. I immediately wrote to the principal medical officer of the forces and was informed that he had been aware of the fact for ten days. I am speaking from memory—it may have been a week; but in any case the time was quite long enough to have informed me of the fact so that I might have closed the factory. Dr. Simpson subsequently was good enough to make a bacteriological examination of the well water; the result is given in Appendix V., p. iii. The typhoid organism was separated. The sample said to have been analysed by the military had been taken from the Yeomanry Hospital. This I could not understand, because I had gone through the merchant's books and there was no entry of any sale to the Yeomanry and, when questioned, he denied any sale to them. Besides, there had not been any marked number of cases of enteric fever in the hospital which could have arisen during the patients' stay there. If the soda water at the Yeomanry Hospital came from the factory in question (the Trevenna) then the cases I supposed to be due to the consumption of that water were attributable to some other cause. The bacteriological examination had not then been completed. I went to the hospital and was assured that the water came from Travenna, but when I saw the invoices it was evident that all had come from a factory which used Pretoria town water and which I had recently

closed because the premises were dirty and not well kept. The Travenna books show that considerable sales had been made to the military and I endeavoured to trace these and to have them destroyed, but found that the whole supply had been sent down the Darban line. Therefore, not only had the military omitted to report the matter to me or to close the factory, but they had omitted to take such an obvious precaution as to stop the issue of the soda-water which they had in store. It was impossible from the army statistics to find if the soda-water in question had caused any appreciable amount of disease, because they are useless for that purpose, but judging from the effect it had produced in Pretoria it cannot have been harmless. The factory was closed until Pretoria water was laid on and the proprietor, who acted very innocently as regards the unfortunate occurrence, made a donation of £20 to the hospital. I am entirely of Dr. Simpson's opinion as to the value of the army hospital statistics. They may serve the purpose for which they were designed but they are useless for sanitary purposes. We spent hours trying to obtain any useful information from them and failed. It is important for preventive purposes that there should be speedy and accurate knowledge of the places in which disease originates.

Without offering any opinion as to the method he proposes to provide a sanitary service for the army, such a service is essential. Of course there are brilliant exceptions, but, broadly speaking, the officers of the Royal Army Medical Corps know less of sanitary matters than the general practitioner. How can it be otherwise? Moreover, any officer who has any sanitary *fads*, to quote Lord Wolseley, is very apt to have them soon knocked out of him. I could give a very glaring instance of this but it would serve no good purpose and might embarrass deserving men. I have not the least wish to depreciate the value of the Royal Army Medical Corps as a body and I feel certain that Dr. Simpson has no wish to do so. We quarrel with the system, or want of system, and not with the officers. The same remark applies to the Royal Engineers. No man possessed of ordinary common sense could travel over the railway line at the time that I did, when it was frequently destroyed, and see the stupendous work carried out by the Engineers and the rapidity with which it was accomplished without being struck with admiration. At the same time I do not think they are usually first-class sanitary engineers. It is not their vocation."

Dr. Turner concludes his letter by saying that he has "a few exceptions to take to Dr. Simpson's views as to the way in which typhoid fever was spread." As regards the frequency with which it is conveyed from person to person directly or at least not through the agency of water, upon which both Dr. Simpson and Colonel Notter lay stress, Dr. Turner agrees that this method of infection, though not common, probably accounted for many cases at Bloemfontein. The agency of flies he considers as unimportant; for instance, the highest proportion of admissions for enteric fever occurred in June, 1900, when the admissions were 1·16 per cent. of strength. But June is midwinter and the flies then are not troublesome.

Looking Back.

FROM

THE LANCET, *SATURDAY*, DEC. 17, 1825.

OBSERVATIONS [1]

Upon "IGNOTUS *on the Medical Profession*," *and* "NECTEMERE *in reply*." By a SURGEON, APOTHECARY, and MAN-MIDWIFE.

To the Editor of THE LANCET.

SIR,—In turning over some old numbers of the Repository the other day, (a somewhat morbid taste, you will say,) or what a pastoral friend calls "chewing the cud," I chanced to stumble upon two papers in Nos. 87 and 89, written by a wag, yclept or ycleping himself "*Ignotus*," and a third in No. 93, professing to be a reply to the above-mentioned two by, evidently, a *no-wag*, under the *nom de guerre*, "*Nectemere*," a name under which it behoves his god-fathers and god-mothers, for the edification of all good Christians, to explain and etymologize.

He (Ignotus) tells us, that "*professional men carry their stock in trade within their crania, or skulls.*"—God help them!—'tis a small store-house, and often too but slenderly stocked; besides, does he mean to assert that a lawyer, carries all his briefs, a divine, his texts, and a physician, his prescriptions under his hat? Pshaw! the thing is impossible.

"*A surgeon*," *he goes on to state*, in "common with, &c. &c. may claim his station amongst those who exchange intellectual exertion for money, but whence the apothecary derives his claim," &c. &c.—whence? why, from the same source. Is not his intellectual exertion?—what can be more so than pill making, plaster spreading, gallipot scraping, and draught shaking, accompanied, as it may be, by humming an Irish melody, spouting Shakspeare, quoting Horace, or mouthing Byron? Would that he had been accustomed to such intellectual pursuits, he could not then, after his affectation of euphony, too, have been guilty of another mis-quotation; "the rose will smell as sweet," &c.—bah!—"the flower we call a rose, by any other name would smell as sweet;" let him look at Romeo and Juliet, in Stevens's edition.

"*The art of the apothecary*," we hear, is "that of sending in medicine," and "the most wonderful mystery—what becomes of it all?" but this is far from his only art. There is the art of supplanting a pre occupant, or rival—the art of worming into a family—the art of coaxing nurses—the art of frightening your patient, but, at the same time, keeping out his physician—the art, too, of calling him in *in time*; there is also the art of emulsionizing a cough, and of cordializing a pious spinster, who would not drink a tea-spoonful of "Booth's best" to save her soul, but will swallow alcohol by the ounce from the doctor, to the decided detriment of her body; in short, there is the whole art of acting, looking, walking, talking, and riding, the apothecary—the mystery is soon solved; woe to the clergy were theirs as soluble; that is, palatable medicines are swallowed, nauseous ones smelt, and those of ambiguous character returned with the empty bottles.

"*Walking the Hospitals*," it is true, generally amounts to an amble, and now and then to a run; but the book of disease, like that of nature, is, we all know, written in large and legible characters, and "he who runs may read."

"*A sentence in the pharmacopœia*," is no such trifle; the very first one in the preface would puzzle many an Eton boy, although, I contend, that it is quite as classical and humane to bring a *book to an anvil* as a *nose to a grindstone*: and where, let me ask, is the physician, who can *always* translate his own prescriptions!

P.S. These lucubrations, although anonymous, will of course be admitted into THE LANCET. Should any doubt exist as to the authenticity, respectability, or responsibility of the writer, the Court of Examiners at the Hall will perhaps be able to set these matters at rest, if it is just mentioned, that he is the identical X.T.N. who, not many years since, was a little puzzled with their *drawings* of medicinal plants, and who then and there took the liberty of suggesting, that as medical botanists made use of their *noses* as well as their *eyes*, it might be as well to have the said drawings *scented* according to the individual odour of the plants they represented.

[1] Excerpts only are transcribed.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8207 births and 5553 deaths were registered during the week ending Dec. 12th. The annual rate of mortality in these towns, which had been 17·4, 17·6, and 18·6 per 1000 in the three preceding weeks, further rose last week to 19·2 per 1000. In London the death-rate was 18·9 per 1000, while it averaged 19·4 in the 75 other large towns. The lowest death-rates in these towns were 6·3 in Grimsby, 8·8 in Leyton, 10·6 in Hornsey, 10·8 in Walthamstow, 13·1 in King's Norton, 13·3 in Barrow-in-Furness, 13·4 in South Shields, 13·8 in Tottenham, and 14·0 in Stockton-on-Tees; the highest rates were 25·2 in Oldham, 25·4 in York, 25·7 in Reading, 26·2 in Burnley, 28·5 in Plymouth, 29·6

in Middlesbrough, 30·2 in Wigan, and 32·0 in Merthyr Tydvil. The 5553 deaths from all causes in these towns last week included 422 which were referred to the principal infectious diseases, against 436, 430, and 402 in the three preceding weeks; of these 422 deaths, 121 resulted from measles, 97 from whooping-cough, 67 from diphtheria, 67 from diarrhœa, 30 from scarlet fever, 37 from "fever" (principally enteric), and three from small-pox. No death from any of these diseases occurred last week in Hornsey, Tottenham, Bournemouth, Southampton, Burton-on-Trent, Grimsby, St. Helen's, South Shields, or Newcastle-on-Tyne; while the highest death-rates from the principal infectious diseases were recorded in Willesden, Great Yarmouth, Warrington, Bury, Burnley, Preston, Rotherham, and York. The greatest proportional mortality from measles occurred in Willesden, Great Yarmouth, Warrington, Bury, Preston, Rotherham, and York; from diphtheria in Coventry and Merthyr Tydfil; from whooping-cough in Brighton, Wolverhampton, Aston Manor, Bootle, Rochdale, Burnley, Leeds, Newport (Mon.), and Swansea; and from diarrhœa in Burnley. The mortality from scarlet fever and from "fever" showed no marked excess in any of the large towns. Two fatal cases of small-pox were registered in Gateshead and one in Birmingham, but not one in any other of the 76 large towns. The Metropolitan Asylums hospitals contained 32 small-pox patients on Saturday last, Dec. 12th, against 51, 47, and 40 on the three preceding Saturdays; two new cases were admitted during the week, against five, five, and three in the three preceding weeks. The number of scarlet fever cases remaining under treatment in these hospitals and in the London Fever Hospital, which had been 1824, 1832, and 1770 at the end of the three preceding weeks, had further declined to 1717 at the end of last week; 173 new cases were admitted during the week, against 191, 157, and 161 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory organs, which had been 325, 399, and 358 in the three preceding weeks, rose again last week to 417 and were 47 above the number in the corresponding period of last year. The causes of 67, or 1·2 per cent., of the deaths in the 76 large towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Leicester, Nottingham, Salford, Leeds, and in 39 other smaller towns; the largest proportions of uncertified deaths were registered in Hastings, Reading, Birmingham, King's Norton, Coventry, Liverpool, St. Helen's, South Shields, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 17·4, 18·7, and 20·0 per 1000 in the three preceding weeks, further rose to 22·4 per 1000 during the week ending Dec. 12th and was 3·2 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 16·4 in Edinburgh and 17·0 in Paisley to 25·8 in Glasgow and 29·3 in Greenock. The 735 deaths in these towns included 34 which were referred to measles, 15 to diarrhœa, 13 to whooping-cough, six to scarlet fever, two to diphtheria, two to "fever," and one to small-pox. In all, 73 deaths resulted from these principal infectious diseases last week, against 61, 62, and 53 in the three preceding weeks. These 73 deaths were equal to an annual rate of 2·2 per 1000, which was 0·7 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of measles, which had been 13, 17, and 22 in the three preceding weeks, further rose to 34 last week, and were all registered in Glasgow. The deaths from diarrhœa, which had been 20, 22, and 12 in the three preceding weeks, rose again last week to 15, of which nine occurred in Glasgow, two in Edinburgh, and two in Dundee. The fatal cases of whooping-cough, which had been seven, nine, and seven in the three preceding weeks, increased again to 13 last week and included five in Glasgow, three in Aberdeen, two in Edinburgh, and two in Paisley. The deaths from scarlet fever, which had been four, two, and one in the three preceding weeks, rose again last week to six, of which five were registered in Glasgow. The fatal cases of diphtheria which had been seven, five, and four in the three preceding weeks, further declined last week to two, both of which occurred in Glasgow. The two fatal cases of fever were recorded in Greenock and the death from small-pox was registered in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 136, 148, and 133 in the three preceding weeks, rose again last week to 192, and were 51 in excess of the number in the corresponding period of last year. The causes of 31, or more than 4 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 24·5, 24·8, and 27·5 per 1000 in the three preceding weeks, declined again to 24·6 per 1000 during the week ending Dec. 12th. During the past four weeks the death-rate has averaged 25·4 per 1000, the rates during the same period being 17·7 in London and 17·2 in Edinburgh. The 179 deaths of persons belonging to Dublin registered during the week under notice showed a decline of 21 from the number in the preceding week and included 11 which were referred to the principal infectious diseases, against nine, 11, and 13 in the three preceding weeks; of these, seven resulted from whooping-cough, two from diarrhœa, one from measles, and one from "fever," but not any from small-pox, scarlet fever, or diphtheria. These 11 deaths were equal to an annual rate of 1·5 per 1000, the death-rates last week from the principal infectious diseases being 1·2 in London and 0·8 in Edinburgh. The fatal cases of whooping-cough, which had been two, three, and five in the three preceding weeks, further rose last week to seven. The 179 deaths in Dublin last week included 33 of children under one year of age and 57 of persons aged upwards of 60 years; the deaths of infants showed a marked decline from the number in the preceding week, while those of elderly persons were slightly in excess. Eight inquest cases and seven deaths from violence were registered; and 56, or nearly one-third, of the deaths occurred in public institutions. The causes of eight, or nearly 5 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of His Majesty's Order in Council of Oct. 9th, 1903, the seniority of the undermentioned Fleet Surgeons has been antedated to the dates shown against their names, viz.:—William Rogerson White, dated Oct. 2nd, 1888; Steward Frazer Hamilton, dated July 29th, 1889; Henry Anthony Wills Richardson, dated Sept. 21st, 1890; Edward Wentworth Luther, dated Sept. 30th, 1890; Everard Home Saunders, dated Oct. 1st, 1890; William Henry Patterson, dated Dec. 7th, 1890; William Edward Bennett, dated Dec. 9th, 1890; Archibald McKinlay, dated March 2nd, 1891; Alfred Patterson, dated Oct. 26th, 1891; John Dudley, dated Jan. 29th, 1892; Henry Lawrence Crocker, dated Sept. 5th, 1892; George Sprey Smith, dated April 27th, 1893; Leonard Henry Kellett, dated April 27th, 1893; John Davey Henwood, dated May 7th, 1893; James Crawford Dow, dated June 4th, 1893; Charles Edward Geoghegan, dated Sept. 23rd, 1893; George Despard Twigg, dated Sept. 27th, 1893; Thomas Edward Henry Williams, dated Nov. 19th, 1893; Standish Thomas O'Grady, dated Dec. 6th, 1893; Howard Todd, dated Jan. 6th, 1894; Alexander Livingston Christie, dated Feb. 20th, 1894; Charles James, dated March 12th, 1894; Francis Austen Jeans, dated May 21st, 1894; Charles William Buchanan-Hamilton, dated July 15th, 1894; John Speare Lambert, dated July 25th, 1894; Horace Ximenes Browne, dated August 11th, 1894; Arthur William May, dated August 21st, 1894; Alexander John James Johnston, dated Nov. 16th, 1894; James O'Brien Williams, dated Nov. 16th, 1894; Samuel William Vasey, dated Dec. 19th, 1894; Richard Edmund Biddulph, dated Oct. 1st, 1895; William Tait, dated Oct. 1st, 1895; Joseph Crowley, dated Oct. 1st, 1895; William Manley Lory, dated March 31st, 1896; William Spencer Lightfoot, dated March 31st, 1896; John Jeffreys Dennis, dated Oct. 2nd, 1896; Frederick John Lilly, dated Oct. 21st, 1896; John Lloyd Thomas, dated Nov. 9th, 1896; Horatio Septimus Richard Sparrow, dated Feb. 26th, 1897; Anthony Kidd, dated Feb. 26th, 1897; James Henry Beattie, dated Feb. 26th, 1897; Edward James Biden, dated

August 25th, 1897; William Eames, dated August 25th, 1897; Charles William Sharples, dated August 25th, 1897; William George Kynaston Barnes, dated Feb. 27th, 1898; William Henry Norman, dated August 28th, 1898; James McCardie Martin, D.S.O., dated August 28th, 1898; William Maxwell Craig, dated August 28th, 1898; Timothy Joseph Crowley, dated Feb. 26th, 1899; Donald Templeton Hoskyn, dated Feb. 26th, 1899; Robert Howard Nicholson, dated Feb. 26th, 1899; John Leslie Barrington, dated Feb. 26th, 1899; Percy William Bassett-Smith, dated March 26th, 1899; George Welch, dated March 26th, 1899; Edward Bridges Townsend, dated May 30th, 1899; Patrick Brodie Handyside, dated May 30th, 1899; Edward John Mosley, dated August 21st, 1899; Hugh Winckworth Macnamara, dated August 21st, 1899; Joseph Henry Whelan, dated August 21st, 1899; Edgar Ralph Dimsey, dated August 21st, 1899; Joseph Reville McDonnell, dated August 21st, 1899; and Hamilton Meikle, dated August 21st, 1899.

Consequent on the above the undermentioned Staff Surgeons have been promoted to the rank of Fleet Surgeon in His Majesty's Fleet, with the seniority shown against their names, viz:—Henry Harries, dated Feb. 11th, 1900; Edmund Corcoran, dated Feb. 11th, 1900; James Lawrence Smith, M.V.O., dated Feb. 11th, 1900; John Henry Thomas, dated Feb. 11th, 1900; John Dowson, dated Feb. 11th, 1900; Henry Frederick Iliewicz, dated Feb. 11th, 1900; Jeremiah Sugrue, dated Feb. 26th, 1900; Alexander Gascoigne Wilde, dated August 21st, 1900; Harold Rochester Osborne, dated August 21st, 1900; James Macdonald Rogers, dated August 21st, 1900; Chatworth Louis Nolan, dated August 21st, 1900; Harold Frederic Dale Stephens, dated August 21st, 1900; Edward Copley Ward, dated August 21st, 1900; William Robert Minchin Young, dated August 21st, 1900; Herbert William Gibbs Doyne, dated August 21st, 1900; George Albert Dreaper, dated August 21st, 1900; Alexander Fleming Harper, dated August 21st, 1900; Hubert William Austin Burke, dated August 21st, 1900; Edward Robert Drummond Fasken dated August 21st, 1900; James Charles Francis Whicher, dated August 21st, 1900; Alexander Gordon Andrews, dated August 21st, 1900; Arthur Stanley Nance, dated August 21st, 1900; Evan St. Maur Nepean, dated August 21st, 1900; Henry Erskine South, dated Feb. 16th, 1901; Alfred Matthew Page, dated Feb. 16th, 1901; Alfred Cropley, dated Feb. 16th, 1901; John Jenkins, dated Feb. 16th, 1901; Horace Elliott, dated Feb. 16th, 1901; Robert Forbes Bowie, dated Feb. 16th, 1901; William Edward Home, dated August 20th, 1901; Richard Aubrey Fitch, dated August 20th, 1901; Henry Bullen Beatty, dated August 20th, 1901; William Spry, dated August 20th, 1901; Percy Edmund Maitland, dated August 20th, 1901; James Joseph Walsh, dated August 20th, 1901; John Moore, dated August 20th, 1901; Cyril James Mansfield, dated August 20th, 1901; Robert Hickson, dated August 20th, 1901; John Lowney, dated August 20th, 1901; Frederick Walter Stericker, dated Feb. 18th, 1902; William Wenmoth Pryn, dated Feb. 18th, 1902; Graham Egerton Kennedy, dated Feb. 18th, 1902; Jerome Barry, dated Feb. 18th, 1902; Alfred John Pickthorn, dated Feb. 18th, 1902; John Andrews, dated Feb. 18th, 1902; Henry John Hadden, dated Feb. 18th, 1902; Vidal Gunson Thorpe, dated Feb. 18th, 1902; Edward Henry Meaden, dated Feb. 18th, 1902; Alfred Ernest Weightman, dated August 20th, 1902; James Walter Octavius Underhill, dated August 20th, 1902; Frederick James Burns, dated August 20th, 1902; Daniel Joseph Patrick McNabb, dated August 20th, 1902; Charles Strickland, dated August 20th, 1902; James Mead France dated August 20th, 1902; John Menary, dated August 20th, 1902; Walter Godfrey Axford, dated August 20th, 1902; George Thomas Broatch, dated August 20th, 1902; William Bett, dated August 20th, 1902; Frederick Augustus Brice, dated August 20th, 1902; John Walter Slaughter, dated August 20th, 1902; George Henry Foott, dated August 20th, 1902; John Douglas Hughes, dated Feb. 28th, 1903; William John Colborne, dated Feb. 28th, 1903; John Hutton Stenhouse, dated Feb. 28th, 1903; Joseph Agnew Moon, dated Feb. 28th, 1903; Robert Hardie, dated Feb. 28th, 1903; Cornelius Bradley, dated Feb. 28th, 1903; George Trevor Collingwood, dated Feb. 28th, 1903; Richard Miller, dated Feb. 28th, 1903; John Edwin Coad, dated Feb. 28th, 1903; Hubert Holyoake, dated Feb. 28th, 1903; George Wilson, dated Feb. 28th, 1903; Walter Bowden, D.S.O., dated Feb. 28th, 1903; Octavius William Andrews, dated June 2nd, 1903; James Bradley, dated August 27th, 1903; George Hewlett, dated August 17th, 1903; George Alexander Walters, dated August 17th, 1903; William Gordon Stott, dated August 17th, 1903; Charles Sharman Woodwright, dated August 17th, 1903; Jonathan Shand, dated August 17th, 1903; and William Arthur Whitelegge dated August 17th, 1903. Also the seniority of the undermenticned Staff Surgeons has been antedated to the dates shown against each, viz:—Johnston Hamilton Acheson, dated Feb. 22nd, 1896; John McElwee, dated Feb. 22nd, 1896; D'Arcy Harvey, dated Feb. 22nd, 1896; Reginald Thomas Alexander Levinge, dated Feb. 22nd, 1896; John Christopher Ferguson, dated Feb. 22nd, 1896; Edward Pain Mourilyan, dated Feb. 22nd, 1896; Charles March Beadnell, dated May 2nd, 1896; Ernest Courtney Lomas, D.S.O., dated Oct. 21st, 1896; Robley Henry John Browne, dated Nov. 9th, 1896; Edward Butler Pickthorn, dated Nov. 9th, 1896; John Falconer Hall, dated Nov. 9th, 1896; Lawrence Bidwell, dated Feb. 21st, 1897; Edward Henry Hodnet de Courtmacsherry, dated Feb. 21st, 1897; Walter James Bearblock, dated Feb. 21st, 1897; William Hackett, dated Feb. 21st, 1897; Charles Geekie Matthew, dated Feb. 21st, 1897; Thomas Austen, dated Feb. 21st, 1897; Joseph Chambers, dated Feb. 21st, 1897; Percy Vaughan Jackson, dated August 22nd, 1897; Alfred Harold Lissant Cox, dated August 22nd, 1897; Alexander Maclean, dated August 22nd, 1897; Robert Hill, dated Nov. 6th, 1897; Frederick William Parker, dated Feb. 21st, 1898; George Goss Borrett, dated Feb. 21st, 1898; Walter Henry Skinner Stalkartt, dated Feb. 21st, 1898; George Alexander Stuart Bell, dated Feb. 21st, 1898; John Ambrose Keogh, dated Feb. 21st, 1898; Henry William Finlayson, dated July 28th, 1898; Frederick Fedarb, dated July 28th, 1898; Richard Cleveland Munday, dated July 28th, 1898; Edward Carter Cridland, dated July 28th, 1898; Frank Bradshaw, dated July 28th, 1898; Matthew Joseph O'Regan, dated July 28th, 1898; Richard Francis Bate, dated July 28th, 1898; Arthur Gaskell, dated Oct. 31st, 1898; Thomas Christopher Meikle, dated Feb. 11th, 1899; Thomas Cudlip Wood, dated Feb. 11th, 1899; Horace Bruce Marriott, dated Feb. 11th, 1899; Norman Lloyd Richards, dated Feb. 11th, 1899; Ernest Alfred Penfold, dated Feb. 11th, 1899; Ernest James Finch, dated Feb. 11th, 1899; John Kirkup Robinson, dated Feb. 11th, 1899; Hugh Clift, dated Feb. 11th, 1899; Ernest Albert Shaw, dated March 26th, 1899; Francis Herbert Aylen Clayton, dated March 26th, 1899; Frederic James Abercrombie Dalton, dated March 26th, 1899; Edward Sutton, dated March 26th, 1899; and Arthur Reginald Bankart, M.V.O., dated May 5th, 1899.

The following Surgeons have been promoted to the rank of Staff Surgeon in His Majesty's fleet, with the seniorities shown against their names—viz.: Edward Cooper, dated Nov. 11th, 1899; Charles Samuel Facey, dated Nov. 11th, 1899; William Ernest Marshall, dated Nov. 11th, 1899; Montague Louis Bouchier Rodd, dated Nov. 11th, 1899; Herbert Lloyd Penny, dated Nov. 11th, 1899; Arthur Edward Kelsey, dated Nov. 11th, 1899; Henry Baker Hall, dated May 11th, 1900; Henry William Gordon Green, dated May 11th, 1900; Thomas Edward Honey, dated May 11th, 1900; George Thompson Bishop, dated May 11th, 1900; Edgar Fairbank Mortimer, dated May 11th, 1900; Beauchamp Frederick Parish, dated May 11th, 1900; Frederick Albert Capps, dated May 11th, 1900; Percival Marshall May, dated Nov. 15th, 1900; Christopher Louis White Bunton, dated Nov. 15th, 1900; Frederick Davidson Lumley, dated Nov. 15th, 1900; Edward Thomas Meagher, dated Nov. 15th, 1900; Henry Edward Tomlinson, dated Nov. 15th, 1900; Arthur Sydney Gordon Bell, dated Nov. 15th, 1900; James William Wilcocks Stanton, dated Nov. 14th, 1901; Henry Newport Stephens, dated Nov. 14th, 1901; Morris Charles Langford, dated Nov. 14th, 1901; Thomas Williams Philip, dated May 16th, 1902; Lancelot Kilroy, dated May 16th, 1902; Arthur Harry Hingston Vizard, dated Nov. 14th, 1902; Paul Hohling Mills Star, dated May 15th, 1903; Edwin Swainson Miller, dated May 15th, 1903; and Oswald Rees, dated May 15th, 1903.

In accordance with the provisions of His Majesty's Order in Council dated May 13th, 1901, commissions of the rank and date shown have been restored to the following gentlemen, formerly in His Majesty's navy, who have been placed on the list of volunteers for service in the event of war or emergency: James Henry Dawe, Surgeon, dated Feb. 18th, 1886; Philip Nicholas Randall, Surgeon, dated Feb. 21st, 1890; George McGregor, Surgeon, dated Feb. 11th, 1891; Frank Ernest Rock, Surgeon, dated

May 16th, 1894; and Eric Danvers Macnamara, Surgeon, dated Nov. 29th, 1897.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel J. Riordan retires on retired pay (dated Dec. 12th, 1903).

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain E. Gray, 2nd Cheshire Royal Engineers, Railway Volunteers, to be Surgeon-Captain (dated Dec. 12th, 1903).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Cinque Ports: Surgeon-Captain J. B. Berry to be Surgeon-Major (dated Dec. 12th, 1903). 4th Lancashire: The undermentioned officers resign their commissions:—Surgeon-Captain W. McClelland (dated Dec. 12th, 1903). 6th Lancashire: Francis William Bailey to be Surgeon-Lieutenant (dated Dec. 12th, 1903).

Rifle: Galloway: Surgeon-Captain J. Cowan resigns his commission (dated Dec. 12th, 1903). 1st Volunteer Battalion the Dorsetshire Regiment: Charles Percival Allen to be Surgeon-Lieutenant (dated Dec. 12th, 1903). 3rd Volunteer Battalion the Welsh Regiment: Charles Richardson White to be Surgeon-Lieutenant (dated Dec. 12th, 1903). 3rd (Dundee Highland) Volunteer Battalion the Black Watch (Royal Highlanders): Surgeon-Major W. Kinnear is borne as Supernumerary whilst commanding the Black Watch Volunteer Infantry Brigade Bearer Company (dated Dec. 12th, 1903). 3rd (Renfrewshire) Volunteer Battalion, Princess Louise's (Argyll and Sutherland Highlanders): Surgeon-Lieutenant W. A. Pride to be Surgeon-Captain (dated Dec. 14th, 1903). 7th Middlesex (London Scottish): Surgeon-Major J. Cantlie to be Surgeon-Lieutenant-Colonel (dated Dec. 12th, 1903).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

The London Companies: Major H. W. Dodd resigns his commission, with permission to retain his rank and to wear the prescribed uniform on retirement (dated Dec. 12th, 1903); Lieutenant H. Fulham-Turner to be Captain (dated Dec. 12th, 1903).

SOUTH WALES BORDER VOLUNTEER INFANTRY BRIGADE.

Field-Marshal Sir Evelyn Wood, commanding 2nd Army Corps, sanctions an extension of service until Jan. 31st, 1906, in the case of Brigade-Surgeon-Lieutenant-Colonel P. E. Hill, V.D., South Wales Border Volunteer Infantry Brigade.

DEATHS IN THE SERVICES.

Major Langton Philip Mumby, R.A.M.C., on Dec. 1st at Spring Garden Lodge, Gosport, in his forty-third year. The deceased, who was the youngest son of the late Colonel Charles Mumby, received his medical education at Westminster Hospital Medical School, where he took a high place in the various class examinations. He graduated M.B. of London University in 1884, having obtained the M.R.C.S. and L.S.A. qualifications during the previous year. In 1892 he took the D.P.H. of Cambridge. After holding resident appointments at Westminster Hospital Dr. Mumby entered the Medical Department of the Army in 1886 and served with distinction in the North-West Frontier campaign of 1897 (mentioned in despatches).

Correspondence.

"Audi alteram partem."

AN APPEAL BY THE UNIVERSITY OF LONDON IN SUPPORT OF MEDICAL EDUCATION.

To the Editors of THE LANCET.

SIRS,—We venture to ask your aid in giving publicity to an appeal which is now being issued by the Senate of the University of London for funds to build and to endow an Institute of Medical Sciences under the control of the University. Owing to the great changes which have taken place in medical education of late years, due to the increasing attention given to the teaching of the scientific subjects, it has become impossible for each medical school out of the income derived from the fees of students to build, to equip, and to maintain the laboratories, fitted with costly apparatus, which are necessary for modern scientific teaching. It has long been felt that a great improvement would be effected if instruction in certain subjects could be given, not separately in a number of medical schools, but in one or more central institutions controlled by one authority.

The Royal Commission appointed to consider the charter for the proposed teaching university in London reported as follows:—

> The teaching of physics, chemistry, biology, anatomy, physiology, ... pharmacology ..... should be concentrated into one or two institutions.
>
> It can hardly be doubted that considerable improvement in medical education would result from this arrangement, while by the saving of time and expense and concentration of force the several schools would be set free from what must now be a burdensome weight and would be enabled to devote all their energies to the teaching of the clinical subjects of medicine and surgery, which in all their various branches have largely developed of late years.

The Statutory Commission appointed to frame the statutes of the reconstituted University adopted the recommendation of the former commission and embodied it in the following statute:—

> ..... In particular the Senate shall use its best endeavours whenever practicable to secure such common courses of instruction for internal medical students in the preliminary and intermediate portion of their studies under appointed or recognised teachers at one or more centres.

The faculty of medicine, a body consisting of 350 recognised teachers of the University, having ascertained the views of the teachers of the medical schools, recommended he Senate to establish an Institute of Medical Sciences for the teaching of physics, chemistry, biology, anatomy, and physiology.

It is because the Senate believes that at the present moment there is a most favourable opportunity of obtaining that centralisation in the teaching of these subjects which has been so much desired that it appeals for funds to help the University to carry out this project. If London is to maintain the position which it has hitherto held as a centre of medical education it is essential that money for these objects should be provided. This necessity has been fully recognised elsewhere, but hitherto nothing has been done to meet a similar need in London. There is no city of the United Kingdom in which there are such opportunities for the study of medicine and surgery as in London. The importance of its hospitals, the immense number of patients suffering from every kind of disease who come from all parts for treatment, and the presence of distinguished physicians and surgeons as teachers, have combined to render London one of the most celebrated schools of practical medicine and surgery.

The public is indebted to medical schools not only for a supply of men competent for the public services and the private needs of the community, but also for many of those discoveries which have of late done so much for the advancement of medicine and surgery. The nation has therefore a very direct interest in the efficiency of medical education; and now that the needs of London in this respect have been made known it is hoped that the University will obtain from the citizens of the metropolis the support which it requires in order to enable it to keep its teaching abreast of modern science. A great advantage of carrying out this scheme would be that the hospitals, being relieved of the necessity of providing the space required for the teaching of the prelimary scientific subjects, would henceforth be able to devote all their resources to the care of the sick and to research into the causes of disease, to an improved knowledge of which future advances in medical and surgical treatment must be due.

We confidently commend the present appeal of the University to those who are in a position to help it forward by donations or bequests. Donations and applications for copies of the appeal and for further information should be sent to the honorary treasurers at 35, Clarges-street, W. For the convenience of donors the payment of a donation may be extended over a period of three years.

We are, Sirs, yours faithfully,

ROSEBERY,
Chancellor.
P. H. PYE SMITH,
Vice-Chancellor.
ARTHUR W. RUCKER,
Principal.
J. K. FOWLER,
Member of the Senate.
H. T. BUTLIN,
Dean of the Faculty of Medicine.
} Honorary Treasurers of the Appeal Fund.

THE LUNG REFLEX OF ABRAMS.

To the Editors of THE LANCET.

SIRS,—You will pardon my revival of this subject, but the recent polemic in THE LANCET in which Dr. A. G. Auld and Dr. Harry Campbell participated respecting this reflex may be regarded as an adequate excuse for my intrusion. I do not concur with Dr. Campbell who combats the theory of Dr. Auld—viz., that the lung reflex is an independent reflex and not dependent on the action of the inspiratory muscles. I presume that I am correct in assuming that Dr. Campbell does not deny the existence of the lung reflex but merely questions its mode of genesis. We do not deny the phenomenon known as the knee-jerk although we may remain undecided whether it is a true spinal reflex or accept the interpretation of Gowers that it is due to the direct effect of the concussion or the sudden stretching upon the muscle itself which is in a condition of slight tonus. Dr. Campbell presents the unconditional inspiratory dyspnœic theory in explanation of the lung reflex, ignoring, as Dr. Auld puts it, "that the lung has an *inherent* power of dilating apart from the breathing forces or atmospheric pressure." The theory of Dr. Campbell is certainly ingenious and is fully elaborated in his excellent work on "Respiratory Exercises," to which I owe many valuable suggestions, notably those relating to the splanchnic vaso-motor mechanism which have enabled me to develop an important clinical sign which I have called the "cardio-splanchnic phenomenon." The Campbell theory of the genesis of the lung reflex of dilatation may be contravened, as I view it, by succinct reference to the counter reflex of *lung contraction*.[1] The latter reflex is evoked by forcible percussion in the nature of a concussion blow and manifests itself in brief by the translation of a resonant into a dull percussion sound. This method of concussional percussion when executed during the time the Roentgen rays are traversing the chest demonstrates the gradual darkening of a definite area of lung contiguous to the region percussed and impresses one as though the lung were trying to squeeze the air out of the air vesicles. After the lapse of several seconds the specified lung area resumes its normal brightness. If the Campbell theory is correct—viz., that lung dilatation ensues as a result of cutaneous irritation which reflexly excites the inspiratory muscles to action, why is it that in a manœuvre necessary to elicit the lung reflex of contraction when cutaneous irritation is more pronounced lung contraction and not dilatation ensues? Surely dyspnœa as a resultant of lung collapse (the lung reflex of contraction) would be a more reasonable assumption than air-hunger as a concomitant of lung dilatation. Why is it that the reflex of lung contraction does not occur if the nasal mucosa has been cocainised? I may add that recently I have succeeded in bringing both lungs into a condition of contraction by medicamentous applications to the nasal mucosa and that after such applications none of the conventional manœuvres necessary to induce the lung reflex of dilatation proved operative. I have reserved for future consideration, for a work on asthma now in course of preparation, further reference to this important subject.

That the lung reflexes are quite independent of any dyspnœic activity of the thoracic musculature is made evident by my contribution on the physiological action of amyl nitrite.[2] I demonstrated that in a certain percentage of persons the inhalation of this drug will cause a diminution of the transverse diameter of the heart, a fact made evident by the x rays. Insomuch as amyl nitrite is regarded almost as a specific in inhibiting the distress of angina pectoris the theory of Heberden that angina is a cramp of the myocardium must be wrong and the theory of extreme tension of the ventricular walls in consequence of acute dilatation seems to be corroborated by the action of the drug upon the heart. What appears to be more apposite in this connexion is the fact that after inhalation of amyl nitrite a limited patch of lung dulness over the manubrium sterni may be evoked. This patch of dulness obtained by percussion may involve the entire manubrium and extend to the right as well as to the left side. The dulness in question is almost never reproduced after an immediate second inhalation of the drug. The lung dulness is dependent on circumscribed collapse of lung, a veritable lung reflex of contraction, and may be dissipated at once by tapping the epigastrium which provokes the counter reflex of dilatation. In some persons inhalation of the drug evokes dull areas in other thoracic regions but the dulness over the manubrium is almost constant. I recall an individual with progressive muscular atrophy in whom both lung reflexes could be elicited notwithstanding loss of electric irritability of the muscular structures of the chest. The elicitation of the lung reflexes through the nose and elsewhere and their inhibition by definite manœuvres prompted me to conclude several years ago in a publication that they were dependent on reflex irritation of broncho-constrictor and broncho-dilator nerves which I hypothesised to exist in the vagus. The recent experimental observations of Dixon and Brodie[3] appear to confirm my original conclusion based on purely clinical investigations.

The number of cutaneous visceral reflexes has by no means been exhausted. More recently I have demonstrated the existence of liver, stomach, and intestinal reflexes. I believe that the epoch-making investigations of Head will prove an incentive to the discovery of other reflexes which will not only subserve a useful purpose in diagnosis but will also suggest many valuable therapeutic measures and elucidate many therapeutic methods which have had heretofore no substantial reason for their existence other than empiricism.

I am, Sirs, yours faithfully,

ALBERT ABRAMS.

San Francisco, Cal.

[1] American Medicine, Jan. 3rd, 1903.
[2] Ibid.

THE NEED FOR FURTHER REFORMS IN THE DEPARTMENT OF ANÆSTHETICS.

To the Editors of THE LANCET.

SIRS,—The many points of interest and importance not only to teachers of anæsthetic administration but also to the governing bodies, medical staffs, and patients of the great hospitals of the United Kingdom which are clearly set forward in Dr. Frederic Hewitt's letter on this subject to THE LANCET of Dec. 12th (p. 1683) form my apology for adding a few remarks and suggestions to those which have already appeared.

A practical knowledge of the administration of anæsthetics has never been, and is not at the present time, demanded by the various universities in their examinations for medical degrees, and, as far as the public are concerned, the possession of a university degree by a medical man is no certificate to them that he has ever read a book on the subject, attended a lecture on anæsthetics, or administered to a single case in his whole previous life. One of the first steps in procuring the advance which is now being claimed for the position of the anæsthetist is to insure a proper training in anæsthetics for every medical student before he receives legal registration and is qualified to practise. More than a year and a half ago the Royal Colleges of Physicians and Surgeons in London inserted a course of practical and theoretical instruction in anæsthetics into their curriculum; their action is bearing good fruit in insuring proper training to those who obtain the Conjoint diplomas, and it lies with the graduates of the various universities to bring pressure to bear upon them to follow his example.

A medical practitioner who has not held a resident post including the work of anæsthetic administration at a hospital is unlikely, to say the least, to have had sufficient practical experience in this branch of the medical art to undertake it in his practice with safety to the public. Many believe that because their obstetric patients take chloroform quite easily in small doses its administration for surgical operations is quite a simple and safe affair. There never was a greater mistake. The physiological state during the period of childbirth is for many reasons peculiarly favourable to the exhibition of chloroform and the anæsthesia required is very light, whilst for surgical cases great experience is necessary to meet the requirements of the various types of patient, both healthy and in every pathological state, in addition to the modern conception of complete anæsthesia entertained by the operator. Most operating surgeons are so thoroughly cognisant of these facts that they dread the performance of any operation without the aid of a specially trained and experienced anæsthetist and, in view of the gradual disappearance of the "major shadow" of high mortality from the surgical procedure itself, as pointed out by

[3] Journal of Physiology, March, 1903.

Dr. Hewitt, and the emergence of the "minor shadow" of mortality from anæsthesia from its former obscurity, this is a very right and reasonable fear. Unsuitable environment and the frequent lack of needful accessories in private practice will always render it inferior in the treatment of disease to the hospital, and as the hospital sets the highest ideal of treatment and advice in other special departments, so the hospital must be the means of educating the public to the proper estimation of the services of the skilled anæsthetist.

The ideal most surgeons desire and the governing bodies of the hospitals should be urged to adopt is this, that no anæsthetic should be administered within their walls excepting by, or under the personal supervision of, a specially chosen anæsthetist. To provide the requisite officers and experience the appointment of resident house anæsthetists at all the teaching hospitals should be made, preferably from the ranks of former house physicians and surgeons. The lectures, demonstrations, and supervision of the whole department should be in the hands of one or two competent medical officers with staff rank according to the size of, and particular work required by, the institution.

I am, Sirs, yours faithfully,

H. BELLAMY GARDNER.

Mansfield-street, W., Dec. 12th, 1903.

THE ADMINISTRATION OF CHLOROFORM TO MAN AND TO THE HIGHER ANIMALS.

To the Editors of THE LANCET.

SIRS,—Dr. A. D. Waller's lecture on the Administration of Chloroform to Man and to the Higher Animals, published in THE LANCET of Nov. 28th, p. 1482, surely contains a warning which the medical profession should be slow to neglect. Remembering the immense advances made during recent years in almost every department of medicine and surgery towards exact knowledge it is surprising that the administration of anæsthetics is still an empirical operation. Who, amongst even the more skilled anæsthetists, is prepared to say what is the exact composition of the vaporous mixture which he is administering to his patient? The present loose and inaccurate method of producing anæsthesia is unnecessarily dangerous in the hands of a careful but less skilled anæsthetist. If a surgeon were given the choice of being assisted at an operation by a skilled surgical assistant or a skilled anæsthetist would he not almost invariably choose the latter.

Dr. Waller's remarks upon the "open" method of giving chloroform—much vaunted by Edinburgh men as the safest—show with equal clearness the great danger and the great extravagance of this method. It is disconcerting but wholesome to realise so plainly that the patient may at one inspiration receive an overwhelming, at others a minimum, dose of chloroform, the amount inspired depending largely on that uncontrollable factor—the character of the respiration. The majority, perhaps, of anæsthetics are given by those who, from whatever reason, do not hold themselves to be amongst the more skilful anæsthetists. It appears to me high time that some form of apparatus should be obtainable which will accurately determine the quantity of anæsthetic vapour actually being inspired, will permit such quantity to be regulated with precision, and will also supply continuously air which has not been previously respired by the patient.

Junker's inhaler is no doubt an attempt in this direction. Although analyses of the composition of the mixture it supplies have been published, the mixture yielded must necessarily vary greatly in composition and other dangers of the apparatus are well known. Probably some form of apparatus, such as that of Dubois, could be made in a portable form suitable for what may be called clinical work. Some such apparatus seems to have been suggested by Vernon Harcourt and tried by some anæsthetists. A description of the apparatus—which does not seem to be supplied by surgical instrument makers—and accounts of experience with it are not easy to find. It may be concluded that the time has arrived when the administration of anæsthetics should cease to be an art and become a branch of exact science.

I am, Sirs, yours faithfully,

W. J. LINDSAY, M.A., M.D., D.P.H. Cantab.

Bromley, Kent, Dec. 10th, 1903.

RECURRENT OVARIAN CYSTOMA AND ABERRANT ACCESSORY OVARIAN STRUCTURES.

To the Editors of THE LANCET.

SIRS,—I am glad that I have succeeded in drawing Mr. J. D. Malcolm's special attention to the unique table published by Spencer Wells, showing the causes of death of those who recovered from completed ovariotomy for cystoma, and I hope that the profession also will take note of it, for I am convinced that the matter is of more than ordinary importance. In none of these cases could any sign of malignant disease be detected before, during, or after the operation; although it is certain that every case was carefully scrutinised *ad hoc* by the keen eyes of Spencer Wells, who would naturally not care to spoil his operation results by including malignant cases in his list. Indeed, at this period, if, after opening the abdomen, the disease was found to be malignant the operation was usually abandoned. It is necessary to recollect, for the proper appreciation of this matter, that the great majority of Spencer Wells' patients were still alive when his table was published, very many of them having been comparatively recently operated on; for in the earlier years of his career far fewer operations were done than subsequently. It is no use speculating as to what maladies these persons might have died from, for we have no information whatever on the subject. Therefore, for the purpose of ascertaining the causes of death of those who died after completed ovariotomy these surviving cases must be completely ignored. Statistical conclusions on this subject resting on any other basis can only be *pour rire*. Spencer Wells' 1000 completed ovariotomies were done between the years 1858 and 1880. The final inquiries as to after-results were made in 1881, when the state of affairs was as follows:—449 reported themselves well in 1881; 11 were well in 1880 but did not respond to subsequent inquiry; 85 were well in 1872 but did not respond to subsequent inquiry; 55 were well when last heard of ten years previously but did not respond to subsequent inquiries; 51 were not heard of after the operation. 651 were therefore alive or were not known to be dead, in 1881; 127 of the remainder died after operation of the first 500 cases; 105 others died after operation of the second 500 cases; and 117 died after recovery from the completed operation—total, 1000.

Of the 117 patients who were known to have subsequently succumbed 29 died from unknown causes; 43 died from various cerebral, cardiac, or pulmonary affections unconnected with the operation; seven died from abdominal or pelvic disease not further specified; six died from recurrent ovarian cystoma; 32 died from malignant disease of various parts. In 19 of these 32 cases the seat of the disease is not stated; in the other cases the parts affected were the peritoneum in three, the uterus in three, the ovarian pedicle in two, the rectum in two cases, and the lung, the liver, and the kidney each in one case. It is distinctly stated, with regard to six of these 32 cases, that the operation was bilateral and it probably was so in several of the others. Now from the analysis it will be seen that the causes of death of those who recovered after completed ovariotomy were known only in 88 cases, and of these 32 were ascribed to malignant disease, or 36 per cent., which is an extraordinarily high percentage.

Wishing to avoid any appearance of exaggeration, I purposely omitted from my estimate the four cases in which malignant disease supervened at very brief intervals after the operation, but these may very well have been instances of acute traumatic malignancy caused by the operation, such as we occasionally see in other parts of the body after operative procedures for the removal of non-malignant tumours. Although the evidence furnished by Spencer Wells' ovariotomy cases as to the great frequency of subsequent malignant disease seems to me to be of the most complete and convincing description, I have not relied on it solely, or even chiefly, for proving my thesis. The cumulative evidence of modern experience, to which I alluded in my last letter in your journal, is of an equally convincing and undeniable kind and permits of not the slightest doubt being entertained as to the exceptional frequency of malignant disease after operations of this kind.

In conclusion, it appears to me that Mr. Malcolm has been rather unfortunate in the somewhat antiquated statistical data, as to the comparative frequency of malignant disease

of the ovaries, which he has cited from Greig Smith's work. Leopold and Schroeder's series of cases are absolutely worthless for this purpose, since they comprise a large number of specially selected malignant cases sent to the clinic for this very reason. It is quite inadmissible to compare cases of this kind with Spencer Wells' ovariotomies from which all malignant cases had been rigorously excluded. I selected the Kelly series of 138 ovarian tumours because this is the only considerable series of such tumours known to me in which the diagnosis had been verified by microscopical examination. With a larger total the percentage of malignant disease would no doubt have accorded closely with my own results, derived from the analysis of 804 primary ovarian tumours under treatment at four of the largest London hospitals, of which only 6·3 per cent. were malignant. Olshausen's and Pfannenstiel's data support me in this contention, for of 293 ovarian tumours from the former's clinic 21 were malignant, or 7·1 per cent.; and of the latter's 400 cases 22 were malignant, or 5·5 per cent.

I am, Sirs, yours faithfully,

Clifton, Bristol, Dec. 4th, 1903. W. ROGER WILLIAMS.

THE ASSURANCE OF UNDER-AVERAGE LIVES.

To the Editors of THE LANCET.

SIRS,—The interesting and suggestive letter of "Actuary" in THE LANCET of Dec. 5th, p. 1617, has, I regret to see, produced no comment from those members of the profession who are best qualified to speak on this somewhat special branch of medicine.

There is no doubt that it is wrong to accept a sub-standard life at ordinary rates on the "limited payment" scale. The tendency, however, has been to accept such lives with a smaller addition than would be required were the policy a "whole life" one. This is done on the ground that the flaw in the applicant—be it gouty tendency, cancerous family history, &c.—will not probably affect him until all the payments have been made, and examiners are apt to fall into the error of supposing that the office is then safe. But as "Actuary" points out, this is far from being the case and is another proof, if such were required, that these sub-standard lives should not be accepted at ordinary rates for the "limited payment" scale. What I would venture to ask "Actuary" is how he arrives at the conclusion that the addition on the "limited payment" scale should be greater than that on the "whole life" basis. The point appears to me to be a new one and of such importance as to require further elucidation.

I am, Sirs, yours faithfully,

Temple, Dec. 14th, 1903. R. L. GUTHRIE.

A CASE OF TRAUMATIC ANEURYSM OF THE GLUTEAL ARTERY TREATED BY INCISION OF THE SAC AND LIGATURE OF THE ARTERY DURING INTRA-PERITONEAL COMPRESSION OF THE INTERNAL ILIAC.

To the Editors of THE LANCET.

SIRS,—At p. 601 of THE LANCET of August 29th Dr. Alan H. Muir has an article on this subject, in the remarks on which Mr. W. F. Brook says: "The credit of having been the first to devise and to perform this operation belongs to my friend Mr. W. H. Battle who in 1898 published a case which he successfully treated in this way at the Royal Free Hospital. So far as I know this is the only case on record." The incision of the gluteal aneurysm and the ligature of the artery during direct compression of the internal iliac artery was first performed by me in 1895. The case is referred to in my work, "Etudes de Clinique Chirurgicale," p. 62 (O. Bertier, Paris, 1901). As regards the operation I said:—

L'extirpation décidée, il fallait trouver un moyen preservant le malade de l'hemorragie qui suivrait fatalement l'ouverture du sac, surtout dans l'hypothèse de ligature profonde, celle-ci ne pouvant se faire peut-être, qu'en arrière de l'echancrure sciatique.

Après quelques reflexions sur l'eventualite touchant la conduite à adopter pour eviter l'hémorragie, nous nous décidons pour la compression préliminaire directe de l'artère iliaque primitive. Nous pratiquons l'incision latérale en vue de la ligature de l'iliaque primitive, sous le chloroforme. Une fois l'artère découverte, nous la saisissons avec une longue pince hémostatique, dont nous avions eu soin de doubler les mors avec du caoutchouc. Cette pince est formée légèrement pour ne pas léser l'artère. Nous inclinons ensuite le malade vers le coté droit et nous commençons l'extirpation de l'anévrysme. Arrivé au terme de la dissection, et la ligature des vaisseaux ouverts achevée, nous retirons la pince de l'artère iliaque interne, puis nous nous assurons que l'hémostase est complète.

Nous sommes arrivé sans encombre au terme de l'opération et sans que le malade ait eu à souffrir de pertes de sang considérables.

I am, Sirs, yours faithfully,

Dr. ANTONIO PACHECO MENDES

Bahia, Brazil. Professeur de la Faculté de Médecine de Bahia.

PARISH COUNCIL OF DURNESS, SUTHERLANDSHIRE.

To the Editors of THE LANCET.

SIRS,—This parish council in 1893 dismissed its then medical officer *without cause being given;* it has now continued its unjust treatment of its medical officers by dismissing its present medical officer. Might I warn the profession, as it is not likely that the next medical officer will get any better treatment? I shall be pleased to furnish any applicant with further information.

I am, Sirs, yours faithfully,

W. L. MUIR,

Secretary, Scottish Poor-law Medical Officers' Association.

1, Seton-terrace, Dennistoun, Glasgow, Dec. 9th, 1903.

A SUSPICIOUS STOP-GAP.

To the Editors of THE LANCET.

SIRS,—In experimenting on samples of coffee which I have found it desirable to cork down for variable periods, it has frequently occurred that a bad cork has started deterioration of specimens of my concentrated infusions and that while the "brew" of the same period, corked with a good cork, has remained sound a coincident specimen has "gone bad" apparently (and only) from a bad cork. It occurs to me that in a multitude of trades where corks are used there must be some effect produced on articles of merchandise and manufacture, not perhaps sufficient so to taint the particular article as to make it "bad" to the taste and yet quite enough to cause it to be deleterious. I merely throw the idea out as a bald suggestion: it may or may not be new; it may or may not be relevant. But it seems to me that where various articles of diet are accused of causing cancer (beer has been so "named") it would be just as well if we all contributed our suspicions, even though such suspicions may turn out to be ill-founded. Of course a really bad cork "corks" wine and a wise man rejects it, but in the specimens of coffee which have been spoilt in my investigations there has been no taste of cork. It is the tasteless deterioration which seems to call for some investigation.—I am, Sirs, yours faithfully,

GEORGE H. R. DABBS, M.D. Aberd.

Austin Friars, E.C., Dec. 5th, 1903.

THE LATE MR. W. J. WALSHAM: AN EXHIBITION OF SELF-CONTROL.

To the Editors of THE LANCET.

SIRS,—Sometime in the early eighties the late Mr. W. J. Walsham permitted me, a student at the time, to be present when he tied the right internal iliac artery in a patient at the Metropolitan Free Hospital. The hospital was at this period in a state of repair or removal and the operation was performed in what appeared to me to be the upper floor of a large warehouse used as a ward. Screens were placed round the scene of operation and the carbolic spray, then so fashionable, was mounted on a couple of boxes. The artery had just been exposed when one of the screens was overturned; it fell against the spray and in an instant there was a big blaze. The other patients began screaming and many of them started for the door. Mr. Walsham left his patient and assisted to put out the flames and quiet the inmates, and then he returned to his operation and separated and tied the artery without betraying the least disturbance.

I am, Sirs, yours faithfully,

A. C. F.

THE FEES AND EXPENSES OF PUBLIC VACCINATION IN RURAL DISTRICTS.

(FROM A CORRESPONDENT.)

THE attitude of the Government in regard to the Vaccination Act of 1898 is not reassuring; the failure to re-enact or to confirm for a term of years a measure which was avowedly tentative has been followed by a departmental inquiry by a committee appointed by the Local Government Board on the subject of the fees and expenses necessitated by the existing Act.

This inquiry has been forced upon the Local Government Board by the representations of certain boards of guardians. The guardians in various parts of the country have been alarmed by the sudden increase in vaccination expenses necessitated in some measure by the Act of 1898, but increased to a somewhat abnormal degree by accidental and unfortunate circumstances. I say "accidental circumstances" but the term is scarcely correct; the large outbreak of small pox in 1901-02 felt over a great area of the country and notably in London was the direct outcome of an increasing failure of compulsory vaccination, increasing since 1880 and finding its maximum in the four years preceding 1898. The amount of revaccination which has obtained in the last three years throughout the kingdom has been very great and a large proportion of this work has been thrown into the hands of the public vaccinators which ten years ago would never have found its way into those hands. It is this sudden increase of expense which has alarmed the boards of guardians and their attitude is easy to understand. It is not only the guardians (who are the administrators of the Vaccination Acts) but also their constituents, the ratepayers, who demand inquiry into the financial aspect of the existing method.

In the interests of the profession at large I have prepared the following summary of the work performed by the public vaccinators and the remuneration they receive and it must not be forgotten that they form a numerous and industrious section of the medical profession. Under the old Act (1876) the public vaccinator had to vaccinate or to revaccinate at his own house or at outlying "stations" at fees varying roughly from 1*s.* 6*d.* to 3*s.* per head; for this he had to collect his own lymph or to arrange for a good service of arm-to-arm vaccination. The work was never considered well paid; in fact, it never was well paid, and no Poor-law medical officer would in those days have accepted the post of public vaccinator if he had not practically been obliged to do so. Under the old Acts the public vaccinator in rural districts waited at home on certain days in each quarter, usually one day each three weeks at the beginning of each quarter, or journeyed to "stations" at a given hour in a corresponding manner and earned a fee for every child efficiently vaccinated; the vaccination of each child occupied at most five minutes; the inspection and the vaccination of each new batch took place at the same appointed interviews and the clerical work was confined to a short entry on each occasion in the vaccination register. There were no expenses for postage, dressings, or other material.

With this let the work now done under the provisions of the existing Act be compared. The mere clerical work takes longer than the whole operation of vaccination and inspection used to do. It is as follows. A list (Form H) is received weekly from the vaccination officer giving the names and addresses of children who have reached the age of four months but have not been vaccinated. A counterfoiled form has to be sent (with postage paid) to the parent stating that on such a day (within the hours of nine and four in the daytime) the public vaccinator will call to offer to vaccinate the child. On the appointed day the public vaccinator has to call and to offer to vaccinate. The parents may refuse his services, the mother may be absent from home, or the case may have to be postponed. In these cases the public vaccinator receives no remuneration whatever for his journey, a journey which may involve a drive of over 20 miles made by appointment. I know from a competent authority that in only about 2 per cent. of instances do parents ever take the trouble to write and so to save the public vaccinator this unpaid labour. From returns collected from public vaccinators it appears that an average of over 30 5 per cent. of the journeys undertaken are productive of no fee whatever owing to refusals and postponements. The operation of vaccination as performed under the orders of the Local Government Board is a very different matter from the routine of five years ago. The arm must be washed and rendered aseptic. All instruments must be sterilised before use, the lymph must be allowed to dry, and thereafter the arm must be dressed aseptically. The whole operation cannot now be performed under 20 minutes, whereas in former days 15 or 20 cases could easily be vaccinated in one hour. At the proper period the arm must be inspected and dressed at the child's home, and a supply of aseptic dressings provided for use until cicatrisation is complete. If the arm should require any subsequent attention this has to be rendered but no further fee is payable.

The distances travelled by public vaccinators in rural districts are very great. Many districts extend ten or 12 miles and cases have frequently to be seen eight or ten miles from the vaccinator's home. One public vaccinator who has investigated the point informs me that the proportion of long journeys to short ones is very high. In his case there have been 82 journeys of over four miles from home out of a total of 179 journeys of all distances in a period of three years. The relation is not accidental, it is found to occur in a large proportion of public vaccinators' experiences. This singular fact that the further from home he goes the more vaccinations the rural public vaccinator has to perform is usually to be accounted for by the competition of some neighbouring "one-spot" vaccinator, a private practitioner, the only serious competition which the public vaccinator meets among the really poor. On the other hand, the further from home the public vaccinator travels the less chance there is of making his visit useful for seeing other patients. The public vaccination visits therefore become visits *ad hoc*. The fees for this exacting work are determined between the boards of guardians and the public vaccinators. The latter sign a contract to perform the work at the specified fees, but this contract may be terminated by the board of guardians entirely at their own will and at 28 days' notice. The Orders of the Local Government Board (1898) have fixed a minimum fee thus: for every child born within the district who attains the age of four months without being vaccinated the public vaccinator receives 1*s.*; for each child successfully vaccinated 5*s.*; and for each revaccination at the public vaccinator's own house or at an appointed station 2*s.* 6*d.* Boards of guardians are empowered to treat their public vaccinators fairly and to grant fees which cover the unremunerated work and the great distances which may have to be travelled. In some cases 2*s.* or even 2*s.* 6*d.* is granted instead of 1*s.* for the registration fee.

When it is considered that every case which finds its way on to Form H involves a far larger amount of clerical work and a special visit in addition, the fee even of 2*s.* 6*d.* compares very unfavourably with that paid under the Infectious Diseases Notification Act and equally unfairly when the fees are compared with those of the certifying surgeons appointed by the Home Office. Many boards have refused to grant any advance on the minimum fee of 5*s.* irrespectively of the distances. In the union of Gillingham, Kent, the work performed, allowing for unpaid journeys, produces a remuneration of a little under 2*s.* per visit. In Ashby de-la-Zouch the estimate is at the rate of 1*s.* 10½*d.* per visit. In the Devizes union the rate of payment is under 2*s.* per visit. In the union of Westbury-on-Severn an attempt was made by the guardians to reduce the fees to the minimum of 5*s.* for all distances, the fees as contracted originally being 2*s.* 6*d.* and 7*s.* 6*d.* for long distances. At the higher rate of payment the public vaccinator had travelled 1172 miles to vaccinate 745 cases for a remuneration of £45, being a fraction over 9*d.* per mile.

The amount of purely unremunerative work is in some instances enormous. The public vaccinator of Mere (Dorset) reports that in one year he travelled 40 miles to visit 17 houses without vaccinating a single case. From Ogley Hay (Lichfield) we obtain the report: "In 12 months I have made 1115 visits, 90 per cent. of which were over two miles from my house, and more than 50 per cent. of them from three to five miles. I estimate the remuneration at 2*s.* 9½*d.* per visit." It is a grave hardship that public vaccinators may only postpone cases for two months; many cases which have to be postponed cannot possibly be ready for vaccination in two months and the public vaccinator knows

this, but the cases must be hunted up and revisited every two months by him or by the vaccination officer. Instances are reported from all sides in which postponement has been made five or six times with no payment for the labour.

When comparison is challenged, as it has been challenged, between the fees earned by public vaccinators and those charged for vaccination by private practitioners, sufficient regard has not been paid to the conditions and character of the work done or to the fact that the apparent fee per case earned by the public official has to recoup him (as far as it does recoup him) for an immense amount of work which earns no fee. The clerical and operative work involved in each case demands at least 35 minutes of time exclusive of travelling time and expenses, while dressings and a proportion of the postage have to be provided. In view of the distances traversed and the unpaid work performed no one could claim that 5*s.* for each completed vaccination is in any district a fair remuneration and any reduction of the existing fees will involve very grave hardship. Few, if any, boards give registration fees over 2*s.* 6*d.* and few give over 2*s.*, while the highest fees for the longest distances are about 12*s.* 6*d.* Even at these apparently high fees the average sum earned by each visit (when the unpaid visits are reckoned) is very small. In the union of Tiverton the fees are 5*s.* per case under one mile, 7*s.* 6*d.* under four miles, and 10*s.* 6*d.* over four miles, but the average per visit is, we are informed, only 2*s.* 2*d.* and the minimum fee is paid for registration (1*s.*).

Where minimum fees are paid the return for each visit is miserable; in one of the districts of Lutterworth the fee earned per visit is 1*s.* 9½*d.*, in Mansfield, 9½*d.*, in Gillingham, 2*s.*; in Devizes, under 2*s.*; in Gainsborough, though a fee of 10*s.* is given for long distances over six miles, the average earning per visit is said to be only 1*s.* These sums are ludicrously small when the distances and the time of actual work are properly estimated. I believe that in many instances in which the minimum fees have not been enforced the boards of guardians and the public vaccinators made an honest attempt to arrive at a fair remunerative wage, having consideration for the poor prevailing scale of fees for ordinary rural practice. But if this be so it is obvious that both contracting parties were quite ignorant of the mass of unpaid work which compliance with the requirements of the Act would involve. I am convinced that when the large mass of evidence which I understand has already been laid before the committee of the department is fully sifted and considered a sympathetic estimate of the value of the work performed will be taken.

Though there is no doubt that the public vaccinators are even now underpaid, there is equally no doubt that the Act of 1898 committed the public to an expenditure with which, in the absence of satisfactory explanation, it is not unnaturally dissatisfied. If the normal proportion of vaccination effected at the public expense had merely been maintained the increase in cost would have been viewed with concern by the ratepayers; but this proportion has been unexpectedly increased by two factors. An enormous increase in revaccination occurred all over the country during the years 1901-02; the accounts of public vaccinators which under the old Act stood at a usual average of about £10 per annum, and under the new Act would (for the birth-rate of the district) have stood at £25, suddenly shot up to £150 or £200, the figures in some areas reaching £2000 or £3000. In districts where no revaccinations at the public cost, except those of occasional telegraph messengers, had been effected for years, there were many hundreds performed in those two years. Further, many boards of guardians neglected entirely to establish public stations for revaccination, with the result that the vaccinators were sent for to vaccinate at the patients' own homes, by which the higher scale of fee was incurred by the authorities. It is within my knowledge that in certainly one rural district the public vaccinator, with the assistance of the local clergy, arranged stations within his area at which he vaccinated many hundreds of persons at the minimum fee of 2*s.* 6*d.* per head, whereas he might have received 6*s.* or 8*s.* per head if he had vaccinated them at their own homes. The people had the legal right to require his attendance at their homes, but fortunately for the local rates he improvised a more economical machinery of stational vaccination. The second factor which tended to increase the amount of public vaccination is the growing appreciation by the public of the methods of public vaccination and the recognised high quality of the lymph supplied by the Government establishment.

In the normal average working of primary vaccination the substitution of the domiciliary visit for stational attendance has induced a large proportion of mothers of the superior artisan and lower trading classes, who would have considered it derogatory to attend in company with a herd of poorer mothers at a public vaccination station, to avail themselves of public vaccination. This influence has been felt even more in the matter of revaccination. In the last two years large numbers of householders of superior position, even of considerable wealth, who would not have done so ten years ago, have availed themselves of the provisions of the Act to secure the services of the public vaccinator for themselves, their domestic servants, or their business employés.

The present Act provides an expensive and comfortable means of securing vaccination to everyone. The expense is undoubtedly considerable, but if it is deemed desirable on the part of the departmental committee now sitting to recommend means of retrenchment it is to be hoped that such retrenchment will not be at the expense of the public vaccinators in rural districts, who are already underpaid. Not only would a reduction in fees for the work performed be a hardship which the profession might resent, but it must be remembered that skilled public vaccinators—men of good professional status and trustworthy character—are invaluable apostles of vaccination for whose work it is worth the while of the State to pay adequately. A good public vaccinator, zealous to render his district a well vaccinated one, is an apostle of the value of vaccination whose service is worth to the State more than the bare statutory fees which he earns, and this fact has been in principle recognised by the Government in the long-established system of "grants" for vaccination, which are allotted to a great extent according to the excellence of vaccination in individual districts.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Housing Question.

BESIDES the Rowton House (now under construction) another experiment in the way of solving the housing problem by private enterprise and as a commercial matter is being made by a company under the title of "Homes (Limited)." The idea is to provide clean, sanitary, and cheap dwellings for the poor and the prospectus of the company pledges it to build flats suitable for those earning small wages and to take steps to insure their being occupied by tenants of that class. Two blocks of flats, four storeys high, have now been erected in the very poor district of Deritend. These buildings are divided into 60 tenements, 28 of which consist of one room each, to let at 3*s.* per week; 16 of two rooms each, at 4*s.* 3*d.*; and 16 of three rooms each, at 5*s.* The materials of which the flats are built have been very carefully chosen so as to make the walls and floors fire-proof, and as far as possible sound-proof and incapable of harbouring vermin. Each tenement has a private lavatory attached to it and there is a washhouse containing two boilers on each floor. Each tenement contains a ventilated food-cupboard and a sink with water laid on. The ends of all corridors are open for the purpose of insuring free ventilation and by means of a pulley placed in each it will be possible to haul up coal or heavy articles of furniture to any level. Gas-light is provided in the corridors and on the staircases, but each tenant will be able to use gas or oil in his tenement as he may choose. These buildings have been recently opened at a ceremony at which Mr Councillor G. H. Kenrick, chairman of the company, presided and the Lord Mayor was present. The latter in the course of his speech said that he was grateful to the company for giving the city council a practical example as to whether it were possible for private enterprise to grapple successfully with one portion of the housing problem. The erection was in the nature of an experiment and he would much rather that such an experiment were made by private enterprise than by the municipality. Meantime it must be added that the council's policy with regard to the housing of the poor does not seem to meet with much support in a pamphlet issued by the Rev. Mr. Bass, a well-known worker amongst the very poor, whose parish, that of St. Laurence, comprises one of the poorest and most wretched parts of the city. With respect to the council project of opening up the courts he

says: "The landlords are called upon to pay the cost of repairing properties; the front houses, taken down to make air spaces, are paid for by the corporation. The housing committee's estimate when applying to the corporation for their last grant was that the pulling down of such front houses would cost £100 per court. The experiment made in the condemned area is to be applied to the whole city. Now let us see what the cost will be. There are 6000 courts in Birmingham and, to state the case moderately, if only 1 in 4 is opened up it will cost the city £150,000. Not one single foot of land on which the houses stood will then be the property of the corporation, nor will they be the possessors of a single brick, whereas, on the other hand, £150,000 of municipal money spent in building houses at rentals of 3*s.* 6*d.* to 5*s.* a week would go a long way towards solving the slum difficulty and leave a handsome estate in the hands of the corporation, which would be a positive source of revenue."

St. John Ambulance Association.

The annual meeting of this body has recently been held and the report then read stated that the year's working had resulted in a profit of over £18, leaving a surplus of about £85 after voting a sum of nearly £30 to the funds of the Birmingham corps of the St. John Ambulance Brigade. 19 classes were held during the period under review, of which 15 were male first-aid, three female first-aid, and one male nursing; five classes were held in connexion with manufactories. The committee was pleased to announce that the number of classes inaugurated by employers of labour continued to increase. In view of the success of the Birmingham corps it was desirable that a nursing division should be formed from among the ladies possessing first-aid and nursing certificates and the matter was now under consideration. It was stated that 29 medical men had given their services as lecturers gratuitously during the past year. The Lord Mayor, in his speech, alluded to the valuable services of the corps on various public occasions during the year and notably on the occasion of the great meeting at Bingley Hall addressed by Mr. Chamberlain.

Old Age Pensions.

A very remarkable light is thrown upon the proposals in this direction by certain statistics collected by the clerk to the West Bromwich Union in reply to a request from the Local Government Board which some time ago wrote asking for the information of the Select Committee, which had under consideration the Aged Pensioners' Bill of 1903, the number of aged paupers in the union over 65 years of age who would be able to live outside the workhouse with relatives having suitable accommodation for them if each had a pension of from 5*s.* to 7*s.* per week and also how many of them would wish to do so. The clerk pointed out that the persons included in this inquiry would not contain amongst their numbers those inmates who could not take care of themselves owing to some bodily or mental infirmity. From information which he had obtained he found that the number of persons over 65 years of age in the workhouse on August 5th was 325. The number who, in the opinion of the medical officer, could not satisfactorily take care of themselves owing to physical or mental infirmity was 203. That left 122 persons who might be described as candidates for the pensions. Of this number 22 had out-relief before they came into the workhouse, whilst in 98 cases no out-relief was given prior to their admission to the building. Further, out of the total cases 52 were admitted to the workhouse because they had been living under neglected conditions and 73 because of intemperance, whilst 82 were men and 40 were women. As the result of careful inquiries made it was ascertained that there was not a single person in the workhouse who was eligible for a pension under the conditions laid down. It was a matter for regret that during the inquiries that had been made only one case was found in which a man had been for any considerable time a subscriber to the funds of a friendly society, and that person had to seek the shelter of the workhouse because he had no relatives or friends with whom he could reside.

Vaccination in the District.

A good deal of discussion has taken place at recent meetings of the Dudley board of guardians with respect to the cost of vaccination and at the last meeting but one a report of the views of the Association of Poor-law Unions that the fee should be reduced from 5*s.* to 2*s.* 6*d.* and paid by the Treasury and not by the local authority was received with much approval. At the last meeting a statement of the cost of vaccination during the past years was made by the clerk. He stated that for the four years ending 1899 there were 7314 cases of vaccination and revaccination and the total cost was £1440, which averaged practically 4*s.* per case. For the last four years following the adoption of the order there were 9504 cases of vaccination and revaccination and the total cost was £4378, which gave an average cost of 9*s.* 3*d.* Of the 4*s.* the public vaccinators received 1*s.* 7½*d.* and of the 9*s.* 3*d.* they got 8*s.* At a recent meeting of the Hanley town council statistics were given of the results of the North Staffordshire joint small-pox hospital. The chairman stated that the total number of patients admitted up to that date from the opening of the hospital was 259, of whom 125 were from Hanley. The total number of deaths in the hospital was 13. Of these deaths five patients were alcoholic subjects and death in their case was due to delirium tremens the result of excessive drinking. One patient died from heart disease and one from acute delirious mania. Seven deaths out of ten which occurred amongst the vaccinated patients were thus accounted for by causes other than small-pox. Of the total admissions into the hospital 31 were unvaccinated patients, with three deaths, being 9·7 per cent. Imperfectly vaccinated patients numbered 128. Of these ten died, seven of which deaths had been accounted for otherwise than by small-pox, leaving three who died from that disease, or 2·3 per cent. Well-marked vaccination was shown in 100 patients, amongst whom there were no deaths. There was no case of any patient being admitted to the hospital who had been revaccinated within the last seven years. Several patients had been revaccinated after being in contact with infected persons, but each case was of a mild character and there were no deaths.

Dec. 15th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Edinburgh Medical Missionary Society.

IMPORTANT additions and alterations have just been made in connexion with the premises in the Cowgate of the Edinburgh Medical Missionary Society. The dispensary and students' residence at 39, Cowgate, known as the Livingstone Memorial Medical Mission, was erected by the society in 1877. At this institution young men and women are trained for medical mission work in foreign lands by similar training in the slums of Edinburgh. Since 1877 the work done at the Livingstone memorial has steadily increased. Last year no fewer than 9601 new patients were treated, including 3228 seen at the dispensary, 2413 visited at their own homes, and 2855 who required some slight surgical treatment. The work of the society abroad includes an institution at Agra for the training of native young men, a hospital at Damascus, and a mission station and dispensary at Nazareth. Since the society was instituted over 100 fully qualified medical missionaries have been trained and sent out. The extended premises in the Cowgate, which were formally opened on Dec. 4th by Lord Aberdeen, consist of a three-storey building with a frontage of about 160 feet ending on the west at the junction of the Cowgate with Candlemaker-row. The block to the east is the part formerly in use. It includes the Magdalene Chapel, an edifice which dates from the beginning of the sixteenth century and is traditionally associated with the first meetings of the general assembly of the Church of Scotland. The chapel entrance is on the left of the main corridor; to the right are two surgical rooms, while between those two rooms a corridor leads to a waiting room, two consulting rooms, and the dispensary. To the rear is a hall which has been enlarged by including in it what were formerly the consulting and waiting rooms and the dispensary. The hall is now large enough to accommodate between 200 and 300 persons. It contains a bust and crayon portrait of Dr. Livingstone and a stained-glass window, the funds towards providing the latter having been contributed by patients. On the first floor is the students' residence, including a bedroom for each student, a study between every two students, a dining hall, a library, and a missionary museum. All the rooms are to be heated by means of pipes. Formerly only six students could be accommodated, now there will be room for 12 men. During the first three years of their training the students live in Miller House, George-square,

but during the fourth year they live in the Cowgate. Women students have a similar training but do not live at the dispensary. At present 18 men and four women are being trained under the auspices of the society. An important adjunct to the work of the society in the Cowgate is a temperance restaurant which occupies the western block of the building. In connexion with this are a reading room, a billiard room, and a gymnasium, the object being to form a poor man's temperance club where he can be provided with good food and rational amusement at the lowest possible rates. The cost of the extension is estimated at over £5000.

Dec. 15th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Belfast Workhouse.

Dr. E. C. Bigger, medical inspector to the Irish Local Government Board, has just made a special report on the state of the Belfast workhouse which is one of the largest in Ireland. It stands upon 29½ acres of ground, employs 235 officials, and has during the winter an average of about 3400 inmates, made up of sick, aged and infirm, lunatics, children, and a few healthy adults. Taking the workhouse altogether there are 120 persons to the acre, but on the 11 acres on which the workhouse stands there are 200 persons to the acre, which is more than would be allowed in barracks, asylums, and similar modern institutions. Dr. Bigger asks whether the time has not arrived for the guardians to consider whether they should cease to erect any more buildings upon their present grounds. He suggests a kitchen for each ward or for each pair of wards. He praises the new nurses' home which has accommodation for 130 nurses and reports in eulogistic terms of the services of the visiting and resident medical officers and nursing staff.

Drumconrath Dispensary.

This dispensary, in Co. Louth, has been vacant over six months. The guardians have been unable to obtain a medical man, as the Irish Medical Association insisted on a minimum salary of £200 per annum. In the circumstances the Local Government Board proposed to amalgamate Drumconrath dispensary with two other districts and to make two medical officers do all the duty and to divide between them the salary formerly paid to the Drumconrath medical man. The guardians would not agree to this at first but on Dec. 8th they decided to leave the matter in the hands of the Local Government Board.

The late Dr. G. Gray, J.P., Newcastle, Co. Down.

Under the auspices of the Castlewellan Literary Society, of which Dr G. Gray, who practised for many years in that town, was first president, there was held in the court-house, Castlewellan, on Dec. 11th, a large public meeting, when the Countess of Annesley unveiled a portrait of the deceased practitioner. Lady Annesley, in referring to the high qualities of the late Dr. Gray, spoke in sympathetic terms of the self-denying sacrifices of the medical profession. Dr. Gray enjoyed the good-will, respect, and confidence of a large *clientele*, and it is pleasant to see—in a country like Ireland—people of all sects and every social position paying such a tribute to the memory of a deceased member of our profession.

Small pox in Belfast.

On Dec. 14th four fresh cases of small-pox were notified to the authorities and the cases were promptly removed to Purdysburn isolation hospital. Each of the cases, as "contacts" with a case from Newcastle on-Tyne, isolated some time since, had been under observation. The cases are a mother and two of her children and a young woman. Two "contacts" have been placed in the intercepting hospital.

The Poor-law (Irish) Commission.

This commission opened its sittings in the court house, Belfast, on Dec. 16th. The commissioners are Mr. W. L. Micks (chairman), Dr. E. C. Bigger, Mr. G. Murnaghan, M.P., and Mr. Mahon, LL.B., registrar. The inquiry is in reference to dissolution of unions, provision of auxiliary lunatic asylums, the better classification of the infirm, destitute, and sick, the boarding out of children, and the best method of dealing with casuals.

The Youghal Auxiliary Lunatic Asylum.

The board of governors of the Cork District Lunatic Asylum has built an auxiliary asylum at Youghal to which it proposes to remove harmless lunatics with a view to relieve the congestion of the parent institution. At some recent meetings there was considerable discussion as to whether a visiting physician or a resident physician should be appointed at Youghal. At a meeting of the members of the Cork medical profession specially convened to consider the matter a motion was passed and duly forwarded to the governors urging them to appoint a resident physician, and mentioning amongst other reasons the fact that lunatics, owing to bolting their food, are liable to get choked, when medical assistance is required to be immediately at hand. At the following meeting of the board of governors this resolution was under consideration, when by a comparatively small majority it was decided to appoint a visiting physician. Amongst those voting with the majority was the Very Rev. Dr. Kelly, Bishop of Ross. Later, in reply to a communication addressed to him on a different subject, the bishop wrote to the gentleman acting as honorary secretary to the meeting of the medical profession and expressed the opinion that the action of the profession with regard to the asylum appointment was an unwarrantable interference and due to interested motives. At the meeting of the medical profession the reading of the bishop's letter naturally caused considerable indignation and a proposal was made that the resolution previously forwarded to the asylum board and the letter of the bishop should be jointly sent to the local press. However, it was pointed out that the adoption of that course would result in unpleasant discussions which could effect no good and it was finally decided that the members would best consult their own dignity by entering his lordship's letter on the minutes and marking it "read." A motion to that effect was accordingly unanimously adopted.

Dec. 16th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Possible Dangers of Saline Injections.

AT a meeting of the Hospitals Medical Society which was held on Dec. 4th three speakers drew attention to some unfortunate results which had followed subcutaneous injections of saline solution. M. A. Bergé gave an account of the first case. It was that of an old man with arterial and renal sclerosis as well as aortic insufficiency. He received two injections of saline solution of a strength of seven parts per 1000. After this he developed acute pulmonary œdema, intense dyspnœa, a sense of impending death (*angoisse*), slight cyanosis, and on auscultation subcrepitant râles were heard. Hallion and Carrion as well as Achard and Laper had previously shown that intravenous injection of saline solution in an animal would bring about pulmonary œdema. M. Bergé's case is a clinical verification in man of this experiment. M. Achard and M. Paisseau in another paper reported that they had made a post mortem examination on the body of a woman who for secondary hæmorrhage after hysterectomy had received subcutaneously within 24 hours ten litres of artificial serum containing five parts of sodium chloride and ten parts of sodium sulphate per 1000. Death was due to pulmonary œdema which was demonstrated at the necropsy and there were besides renal lesions. It was not proved that these lesions were due solely to the sodium chloride being in excess, for the solution of this salt was so weak as to have less than the normal osmotic power (*était hypotonique*). It was on account of this hypotonia that the muscles of the patient showed a smaller proportion of sodium chloride than did the muscles of a subject who had died from rapid suffocation, which were tested as a comparison. Nor can the sodium sulphate be held responsible for the death and M. Achard and M. Paisseau think that it was due to the quantity of water. Experiments on rabbits show that the animals die when either weak or strong solutions of sodium sulphate are injected. A rabbit injected with over a litre of the same solution as was employed for the patient died within a few hours. Death was due to cardiac dilatation and the renal epithelium was affected in addition.

"Dechloridation" and the "Dechloridated" Diet for Morbus Cordis.

At the meeting of the Hospitals Medical Society held on Nov. 13th M. Widal, together with M. Froin, M. Digne,

M. Vaquez and M. Laubry, communicated the results of an inquiry which they had made into the above subject. The patients under observation were nine in number and all of them exhibited actual œdema or else signs of its recent occurrence. The first point to be noted was that a patient suffering from morbus cordis, even when just recovered from an attack of cardiac insufficiency (*asystolie*) with œdema, was not affected by the ingestion of chloride of sodium. Despite a progressive increase in the amount of chlorides given in the diet both the œdema and the weight diminished in three patients. Three others, however, showed an increase in weight under an additional dose of 10 grammes of chloride of sodium. A "dechloridated" diet—namely, bread, meat, potatoes, and butter all free from salt—given to four patients with morbus cordis either made no difference as regards weight or else diminished it very slightly, even after a test meal of salted diet. In fine, the action of a salt-free diet on cardiac œdema is rather to hold it in check than to cure it and does not cause the effused serum to disappear as it does in certain cases of Bright's disease.[1] M. Vaquez and M. Laubry gave it as their opinion that a diet rich in salts is generally dangerous for a patient with morbus cordis, whatever be the stage at which his complaint has arrived. As to a salt-free diet the indications for its use seem to be less marked than in cases of Bright's disease. During a period of acute but transient cardiac insufficiency a salt-free diet may with advantage be substituted for a milk diet. Continued for some little time after the attack has passed off it will prevent a relapse. In favourable cases a salt-free diet acts not so much as a cure but as a sustaining diet (*ration d'entretien*). It also has its uses in cases of chronic cardiac insufficiency with permanent œdema, for it is a pleasant change for the patient from a milk diet and it prevents a too rapid wasting.

Artistic Anatomy.

The anatomy classes at the Fine Arts School have a new professor who is at once a medical man and an artist. Professor Richer, the well-known sculptor, has for the past 20 years devoted himself to the search for truth in art, and the results of his first researches were published in a volume entitled "Artistic Anatomy" in 1890. At a later date he published the "Artistic Physiology of Movement in Man." Various masterpieces of art were reproduced in this work and in the introduction, which dealt with human physiognomy, Professor Richer studied the relations existing between art and medicine. He has now inaugurated a new course of lectures at the Fine Arts School, showing by the history of art how the human figure has been represented and what were the means at the disposal of artists. Professor Richer deals with Egyptian art, with Greek art, with the influence on art of anatomical studies which began about the thirteenth century, and with the works of the primitive Italian artists. The course will also include lessons in practical anatomy the details of which will be drawn together with figure studies.

The Anatomical Evolution of Fractures which are moved with a View to bring about a False Joint.

At the meeting of the Academy of Medicine held on Dec. 8th M. Cornil gave an account of some experiments made in collaboration with M. Coudray upon the method of repair in fractures and showed various micro-scopical sections taken at different times during the period of healing. He said that in his opinion fractures which were not kept at rest had but little tendency to produce false joints and generally healed in the ordinary way. If, then, it is permissible to argue from the case of an animal to that of a man, fractures in the latter should not be kept at rest. M. Cornil's opinion goes to support that of M. Lucas Championnière who for the last 20 years has urged that fractures not kept strictly at rest heal twice as quickly as those which are so kept; moreover they are not followed by articular or muscular stiffness. M. Lucas Championnière considers that a fracture should not be immobilised unless there is some great deformity or tendency to deformity of the limb. In every other case gentle movements should be employed but in the case of young children movement should be very carefully used for fear of provoking an excessive amount of callus.

Dec. 15th.

[1] THE LANCET, July 4th, p. 61.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Measuring of Blood Pressure in the Right Atrium Cordis.

Professor Gustav Gärtner has brought forward a new and valuable method of clinical examination. It is a well-known fact that the veins of the skin of the dependent forearm look filled, and that they look empty during the elevation of the arm. This old clinical observation forms the starting point of an exact method of measuring of blood pressure in the right atrium cordis. If the dependent arm is slowly elevated and if the blood-vessels of the skin are observed during the process it will be seen that the collapse of the veins in the same person occurs always at the same moment, when the arm comes to a certain level. The turgidity of the veins diminishes gradually as the arm is elevated, until a time comes when the recently prominent walls of the vessels lie flat. In the healthy man this takes place when the forearm under observation is raised to the altitude of the insertion of the fifth, fourth, and third rib. The phenomenon depends upon the pressure in the right atrium cordis. The veins form untransparent manometer pipes, while it is possible to control the standing of blood in the vessels. Thus we have the possibility of measuring the blood pressure in the right atrium cordis.

Death from Electric Shock.

Jellinek's recent experimental researches show that various kinds of animals have different reactions against the influence of electric currents. Horses are killed by the electric current in street cables—i.e., a constant current of 460 volts—while unipolar application of constant current of 110 volts has a bad effect after a time. Small animals, such as rabbits, dogs, and guinea-pigs, are more resistant, while frogs and tortoises are not killed by currents of 10,000 volts. Death occurs through paralysis of the heart and respiration, and animals which recover show similar symptoms to those which occur in man after lightning stroke, such as paralysis, coming on after an interval sometimes, hæmorrhages, and ocular lesions. The injury to human subjects through electricity depends not only upon the tension and amount of the current, but, and in particular, upon the resistance to transmission, the duration of the shock, the direction of the current, and whether there was unipolar or bipolar application. The individual condition of the subject, his clothes and shoes, as well as the constitution of the soil on which he stands, must all be considered. Undamaged skin affords great protection against electric shock, which, of course, diminishes as the skin suffers from the application. Tensions of from 100 to 150 volts demand precaution, tensions of over 200 volts may be dangerous, and of 500 volts even deadly. There is a well-known case where a man was killed by a current of only 95 volts when standing barefoot in a mixture of potash and sugar and molasses, while in Vienna a man, though much damaged, was not killed by a current of 5500 volts, alternating current. The local symptoms caused by electricity are superficial burning, singed hairs, œdematous infiltrations of tissues, or actually ragged wounds, together with injury to the special senses through the eyes and ears. Very interesting observations made by Jellinek show that sometimes tissue which looks at first unhurt, although in the neighbourhood of burnt spots, will later necrose, the injury spreading to the deeper lying tissues, the prognosis in such cases being very bad. Post mortem Jellinek found many small blood extravasations in the grey substance of the brain and the cord.

Dec. 14th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Patent Medicines and Articles of Adoration.

Dr. S. A. Knopf, a well-known authority on tuberculosis, in a pamphlet recently issued by the committee on the prevention of tuberculosis of the Charity Organisation Society of New York, describes many methods whereby the danger of spreading contagion by consumption may be lessened. The writer severely criticises the adoration of

certain articles and the endorsement of patent medicines. He writes as follows: "It might be of advantage if such articles of adoration as crosses, statues, or, as in Greek churches, pictures, which are often kissed by devout worshippers, were included in the periodic disinfection. Kissing the Bible when taking an oath should be discouraged by jurists and divines." Referring to the endorsement of patent medicines Dr. Knopf says: "Ministers of all denominations should consider it beneath their dignity to allow their names to be used to advertise patent medicines and other secret remedies. I am convinced if they were aware of the fact that many of the advertised patent remedies contain as much as 30 or 40 per cent. of alcohol and often more dangerous ingredients they would refrain from endorsing the use of medicines of whose composition they have not the least idea. Neither should religious newspapers lend their columns to the advertisements of nostrums and patent remedies of all sorts. It is to be regretted that patent medicines are also not unfrequently recommended by statesmen and legislators. Their personal endorsement of this or that secret remedy, given without forethought and perhaps even with good intentions, has often done irreparable harm to the sufferers." The wholesale endorsement of patent medicines by men and women in good positions is a crying evil on this side and it is to be hoped that Dr. Knopf's plain speaking may do some good. The chief sinners in this respect are clergymen who, not content with advising as to a person's spiritual affairs, too often take upon themselves the rôles of physicians. It would appear from a perusal of accounts which are to be read now and again in THE LANCET that British clergymen are somewhat addicted to prescribing for the bodily ills of their flock and to recommending patent medicines, although not to the extent that prevails here. There is little doubt that clergymen give medical advice and endorse patent medicines with the best intentions in the world, but good intentions unless accompanied by knowledge usually bring about bad and unexpected results. The bodily care of the individual is therefore best left to those who have made a study of that matter and the public should be warned against accepting the advice of well-meaning but irresponsible persons.

Two Motor-men for Electric Trains.

The *New York Medical News* in its issue of Nov. 28th strongly urges that two men should be placed in charge of all electric trains. The *Medical News* article says in part: "Many things may happen unexpectedly to a man that will render his position of motor-man likely to be a source of danger to those whose lives are dependent in all emergencies on his good mental and physical condition. During the ordinary hours of the day usually at least one of the other train-men is in a position to note any presages there may be of impending danger. During the rush hours, however, the crowd makes this absolutely impossible and passengers themselves are too uncomfortable, as a rule, to take any precautions looking to their safety." It is pointed out that a motor-man may be suddenly attacked by disease or may be suffering from the incipient stage of some severe internal ailment, such as pneumonia or an acute attack of nephritis, and may easily over-estimate his strength in his desire to put in a full day's work. Accidents, and serious ones, have happened on account of the physical incapacity of the motor-man. An occurrence of this nature took place in the vicinity of New York recently. The warning of the *New York Medical News* is timely for London, seeing that the metropolis will soon have many miles of railroad on which the cars will run by electricity. There can be no doubt that accidents would be avoided by adopting the plan suggested by the *Medical News*. Furthermore, a pleasant sense of security would be afforded to the general public who have learned by the unfortunate experiences of the past few years somewhat to distrust electricity as a motive power, or rather to regard with a lively sense of apprehension the possible catastrophes resulting from its use.

Small-pox in New York State.

The Health Department of New York State has recently reported that small-pox prevails extensively throughout the State. The disease is especially serious in Chautauqua and Cattaraugus counties. The situation in regard to small-pox is also reported as bad at Medina, Orleans county, where there have been 92 cases in two months. The Health Department has stated that health officers are generally doing their utmost to quell the epidemic but receive indifferent support or actual opposition from local boards and citizens in the enforcement of vaccination and quarantine. Weekly bulletins will henceforth be issued by the department until the situation is materially improved, naming the places where small pox exists, and other steps will be taken towards the enforcement of vaccination and quarantine.

Dec. 7th.

Obituary.

WILLIAM NEWMAN, M.D. LOND., F.R.C.S. ENG.

DR. WILLIAM NEWMAN of Stamford, who died at that town on Dec. 3rd, aged 70 years, was one who in a prominent way upheld the dignity and advanced the honour of his profession. He was born on August 29th, 1833, at Hallfield, near Sheffield, and was the son of Mr. Robert Newman, land agent to Earl Fitzwilliam. He was educated under Dr. Jacob at Sheffield Collegiate School, where he was well grounded in the classics, and even as a boy was practised in the art of public or semi-public speaking. He was a nephew of the late Dr. Freeman Eaton of Ancaster, and began the study of medicine in the house of his uncle, during which time he acquired the friendship of a young nobleman who is now the Earl of Ancaster. He received his medical training at St. Bartholomew's Hospital where he made the friendship of Sir James Paget, Sir Thomas Smith, and the late Dr. James Andrew, besides having a distinguished career. He took the degree of M.D. at the University of London as well as the Fellowship of the Royal College of Surgeons of England, and had he chosen he could have been appointed assistant physician on the staff of St. Bartholomew's Hospital. For a short time he practised at Fulbeck near Grantham, but in 1863 he went to Stamford where he was appointed surgeon at the Stamford and Rutland Infirmary and held the office for 30 years. He then retired and was made consulting surgeon, but in a few years resumed the surgeoncy and began to operate in the infirmary again, and continued to do so until this autumn.

A personal friend sends us the following estimate of Dr. Newman's character: "Newman was a man who never wasted time and he got through a large amount both of work and recreation. He had numerous interests. He was an antiquary, a good draughtsman, an excellent shot; he rode the tricycle, loved animals, and took great delight in gardening. Himself a great reader and lover of books, he took much interest in education and was a very valuable member of the educational authority at Stamford. Although a magistrate he seldom sat on the bench. He was a good photographer and had an excellent installation for producing the x rays and the high-frequency current. He collected coins. But these are comparatively minor matters. The salient features of Dr. Newman were his eminence as an all-round practical medical man, as an excellent physician, and as an accomplished surgeon. Not less worthy of note were his high character, his devotion to duty, his never-failing self-respect, and rectitude of conduct. His manner did not belie him. He was full of dignity and courtesy and he was remarkable for the care and precision which he carried into all his actions great and small. He was devoted to surgery and enjoyed above all things talking over its problems with a congenial spirit. He scorned humbug and never pretended to know more about a case than he really did. He would spare neither time nor money to get to the bottom of a difficult case. Being reserved and rather austere in manner to strangers, he was not the man to be universally appreciated by the silly and by the superficial. At heart he was of a kindly and lovable nature."

For many years Dr. Newman's position in Stamford and the neighbourhood was that of a medical man trusted and admired, a friend loved and respected by rich and poor, great and small, and especially trusted and respected by his professional brethren who constantly called him into consultation. Never did any practitioner do more by his own personal conduct and character to raise the position of the medical profession in his own district than did Dr. Newman, and that steadily and consistently for 40 years. His life-long friend Sir James Paget, who had many points in common with him, said of him that such men as Newman made the profession. He was the author of

"Surgical Cases," "Drainage and Water Supply of Towns," and of various contributions to the journals. Being President of the Lincolnshire Medical Benevolent Society which this year celebrated its centenary, he compiled the interesting pamphlet of records of that society, which was recently reviewed in THE LANCET. In his last illness he was faithfully and devotedly attended by his friend and colleague Mr. T. P. Greenwood, and was visited several times by Dr. C. O. Hawthorne. He had been losing weight seriously for some months. Finally he was attacked with pleurisy and serous effusion on the right side. Although relieved several times by paracentesis he gradually sank. His heart had not been strong for some years and he had consequently gone to live at the upland village of Luffenham, in a delightful cottage, partly built by himself, with a lovely garden which owed most of its charms to the skill of Mrs. Newman. For the opportunity of retiring to this particularly healthy village he thanked Lord Ancaster. He had married a second time in 1876 Miss Charlotte Cumming of Hall Place. By his first wife, Miss Sarah Tinley Newton, daughter of Mr. William Newton of Sudbrooke, Lincolnshire, he left two sons and four daughters; by his second wife one son. One of his sons is Captain E. A. R. Newman of the Indian Medical Service.

SAMUEL WOODCOCK, M.D. BRUX., L.R.C.P., L.R.C.S. EDIN. AND L.M., L.S.A. LOND.

THE death of Dr. Woodcock took place on Dec. 12th at Manchester. He was well known in medico-political circles and was at one time a candidate for a seat upon the General Medical Council as a Direct Representative.

The following appreciation of him has been sent by our Manchester correspondent:—The death of Dr. Sam Woodcock removes from our midst one of the most energetic and active-minded workers in various fields that the medical profession in Manchester has ever had cause to mourn. He died at his house in Stretford road on Dec. 12th at the comparatively early age of 63 years. He was born near Glossop in 1840. After leaving school he was apprenticed for five years to a medical man at Middleton and after passing through this stage he became for a time an assistant to the house surgeon of the Chorlton Dispensary, so that he had considerable familiarity with routine medical work before going to Glasgow as a student. In 1866 he passed as L.R.C.P., L.R.C.S. Edin. and L.M., and also obtained the L.S.A. qualification. In 1877 he took the M.D. degree of Brussels. His first appointment was that of one of the medical officers at the Withington workhouse, which he held with credit to himself and with the confidence of the board, of his colleagues, and of the inmates until he gave it up to begin practice in Hulme, where he soon became one of the most popular practitioners. He held the appointments of district medical officer and public vaccinator for a part of the Hulme district of the Chorlton union and also that of certifying factory surgeon, and won the respect and the affectionate regard of his patients in that populous district by his professional skill and genial, kindly disposition. But he was known in Manchester almost as much for his political as for his medical activity. Though from his infancy he was surrounded by a Liberal environment and from his youth up was a keen and ardent politician, his kindly temper and sense of humour saved him from the bitterness which sometimes accompanies devotion to politics. He was a popular speaker, was fluent and racy, and had at command an abundant supply of humour. After the retirement of Mr. Jacob Bright in 1895 he was strongly pressed to become the Liberal candidate for the division now represented by Mr. W. J. Galloway, M.P., but declined for private reasons. For many years he was a very familiar figure at the Reform Club in Manchester, was chairman of the political committee and had also been president and vice-president. In 1891 he became a member of the School Board and took an active part in its proceedings until 1900. In 1892 he was elected a member of the Stretford local board and about the same time was made a magistrate for the city of Manchester. At the city police-court this week Mr. Brierley, the stipendiary, said that they could not begin business without expressing their sincere sorrow at the death of Dr. Woodcock and recording how serious a loss they had sustained, and testimony has been borne by others to his conduct on the bench, to his painstaking discrimination, and to the kindness which he showed towards those who were brought before him. Notwithstanding the fact that his political and social activities seemed almost to overshadow his medical life Dr. Woodcock was a hard-working practitioner and took much interest in the various local medical societies. He was an original member of the Clinical Society of Manchester and had been president and vice-president. He had also held the position of president of the Lancashire and Cheshire Branch of the British Medical Association, and entered earnestly into the questions of medical politics which so greatly interest a large proportion of the members of the Association. It need scarcely be said that he took the Liberal view in almost all cases, enforcing it with considerable power and with evident sincerity. It should be mentioned that he was a man of strong religious feelings and although a conscientious Nonconformist he was no bigot and worked amicably with those who differed from him in opinion on the School Board and elsewhere. Very many will endorse the words of the *Manchester Guardian*: "In private life Dr. Woodcock's genial disposition and admirable social qualities made him popular with a very large circle of friends."

Medical News.

UNIVERSITY OF CAMBRIDGE.—The following medical and surgical degrees were conferred on Dec. 10th:—

Bachelor of Medicine and Bachelor of Surgery.—R. T. Worthington, Trinity; W. L. Harnett, St. John's; and H. I. Pinches, Sidney.
Bachelor of Medicine.—R. B. Hetherington-Smith and H. H. Weir, Trinity; and J. E. Payne, Peterhouse.
Bachelor of Surgery.—A. R. Brailey, Downing.

Dr. D. MacAlister, Dr. J. H. Drysdale, and Mr. T. Strangeways Pigg have been appointed additional examiners for Part I. and Mr. D'Arcy Power and Mr. C. W. Mansell Moullin additional examiners for Part II. of the third M.B. examination.

PRESENTATIONS TO MEDICAL PRACTITIONERS.—Mr. W. S. Wade, L.R.C.P. Edin., L.F.P.S. Glasg., who has acted as surgeon to the Wakefield city police for 38 years, was on Nov. 26th presented by the chief constable, on behalf of the members of the city police force, with a silk umbrella as a mark of esteem. Mr. Wade then presented the force with a large framed photograph of himself.—On Nov. 27th Mr. I. Hitchins, J.P., on behalf of the members of the St. Agnes (Cornwall) Miners' and Mechanics' Institute, presented Mr. William Whitworth, M.R.C.S. Eng., L.S.A., with a framed portrait of himself as a mark of respect and in recognition of his services as honorary secretary of the institute for 21 consecutive years.—On Nov. 30th Mr. Thomas Johnstone, M.D., was entertained at a dinner by a number of friends and patients and presented with a silver salver and rose bowl, the total weight of which amounted to about 150 ounces. The salver bore the following inscription: "Presented to Thos. Johnstone, Esq., M.D. Edin., M.R.C.P. London, by grateful friends and patients on his retirement after nearly 30 years of general practice at Ilkley, Nov. 30th, 1903." The dinner and presentation took place at the Middleton Hotel, Ilkley.

THE CHARGE AGAINST A HERBALIST: COMMITTAL FOR TRIAL.—At Southwark on Dec. 10th, before Mr. Paul Taylor, the hearing was concluded of the charge against Jethro Lardent, aged 38 years, herbalist, of Southwark Park-road, and Ada Booth, aged 34 years, *alias* Lardent, of being concerned together in performing illegal operations upon Miss Rebecca Mitchell. Mr. Bodkin prosecuted for the Treasury. Miss Mitchell, who appeared to be very ill, now gave her evidence in detail. She was to pay the prisoners £10 and actually paid £8. She underwent several operations because none were successful. Since the prisoners had been in custody she had given birth to a child but it had not lived. Dr. A. P. Luff said that certain instruments found in Lardent's shop, one of which was blood-stained, could have been used in the commission of the offence of which the prisoners were charged. He had examined 16 pills which, it had been alleged, were given by Lardent to Miss Mitchell. Ten of them were composed of aloes, capsicum, and sulphate of iron, and the remainder consisted of oil of pennyroyal, ginger, and other vegetable substances. —Lardent: I absolutely deny that there was any pennyroyal

in any of the pills and the quantity of aloes used would not hurt anyone.—Dr. Luff: Oh, yes, it would in repeated doses.—Mr. Edward Collins Bousfield, M.R.C.S., &c., said that Miss Mitchell's accouchement was extremely difficult and the child had to be sacrificed to save the mother's life.—The prisoners, who denied the charge, were committed for trial at the Old Bailey.

DERBYSHIRE ROYAL INFIRMARY.—Two deputations have visited the Derbyshire Royal Infirmary to inspect the buildings and arrangements for the comfort of the patients generally. One deputation consisted of 15 members of the honorary medical staff of King's College Hospital, London, accompanied by the architect, the principal, and the matron; the other consisted of the chairman and members of the committee and honorary medical staff of the Children's Infirmary, Liverpool, and the general superintendent of the Liverpool Royal Infirmary. The visitors, who will shortly be responsible for the erection of new hospitals, made an exhaustive examination of the Derbyshire Royal Infirmary, in the course of which all information was supplied to them by the medical staff, the secretary-superintendent, and the matron, who conducted them through the building.

DURHAM UNIVERSITY COLLEGE OF MEDICINE: MEMORIAL TO THE LATE DR. W. TURNBULL.—At a meeting of the past and present students of the University of Durham College of Medicine held on Nov. 20th, it was unanimously agreed to institute a memorial to the late Dr. William Turnbull, who for nearly eight years occupied with much credit the position of demonstrator of anatomy in the College and a committee was appointed to give effect to the resolution. The ultimate form that the memorial will take cannot be determined until the amount of money available is known, but it was suggested that after erecting a tablet in the College and hanging his portrait in the students' room, the balance of the fund might be invested and the interest devoted annually to a "Turnbull" medal or prize. Dr. John Clay, 42, Jesmond-road, Newcastle-on-Tyne, has been appointed honorary treasurer and will be pleased to receive subscriptions. Professor Sir George H. Philipson, the chairman of the committee, and Professor R. Howden have each promised five guineas and, with four other subscriptions promised, the list has been started with 14 guineas.

NORTHUMBERLAND AND NEWCASTLE MEDICAL ASSOCIATION.—The third annual report of this association which has recently been presented to the members shows that during the past year important questions have engaged the attention of those responsible for the management. Only one medical aid society now exists in the county of Northumberland, which is a matter for congratulation, but it is regrettable that the appeals to the medical profession for assistance on behalf of gentlemen who lost much by giving their loyal aid have met with inadequate support. The association has succeeded in obtaining the assistance of the leading druggists in dealing with medical aid societies, in preventing many applications from distant practitioners for undesirable appointments, and in dealing (*inter alia*) with the threatened formation of a new medical aid society, with a question of notification fees, and with a question relating to colliery accidents; and advice has been given verbally and by letter to numerous inquirers, including its own members and practitioners in other parts of the country. The advisability of sinking the identity of the association in that of the British Medical Association has been considered and reported upon by a special committee which has prepared an exhaustive report that is now in the hands of the members themselves. It is satisfactory to note that no case has had to be investigated by the ethical committee during the year. The number of members on the books of the association at the close of the year is 174, this being the same number as last year.

BOOKS, ETC., RECEIVED.

BLACK, ADAM AND CHARLES, Soho-square, W.

The Direction of Hair in Animals and Man. By Walter Kidd, M.D. F.Z.S., Author of "Use-inheritance." Who's Who. 1904. Price 7s. 6d. net.

Who's Who Year Book. 1904. Price 1s. net. (First year of issue. Tables formerly incorporated in Who's Who.)

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent-garden, W.C.

A Manual for Students of Massage. By Mary Anne Ellison, Member of the Incorporated Society of Trained Masseuses. Second edition. Revised by Gulielma Manley, Member of the Incorporated Society of Trained Masseuses. Price 5s. 6d. net.

The Nutrition of the Infant. By Ralph Vincent, M.D., M.R.C.P., Physician to the Infants' Hospital; late Senior Resident Medical Officer, Queen Charlotte's Lying-in Hospital. Price 10s. 6d. net.

BUTTERWORTH AND CO., 12, Bell-yard, Temple Bar, W.C.

The Sale of Food and Drugs Acts, 1875 to 1899, and Forms and Notices issued thereunder. With Notes and Cases. By Sir William J. Bell, LL.D., of the Inner Temple, Barrister-at-Law, H. S. Scrivener, M.A. Oxon., of the Middle Temple and South-Eastern Circuit, Barrister-at-Law, and C. F. Lloyd, of the Inner Temple and Midland Circuit, Barrister-at-Law. Fourth edition. Price not stated.

CLAY, C. J. AND SONS, Ave Maria-lane, E.C., and H. K. LEWIS, 136, Gower-street, W.C.

Rabies: Its Place amongst Germ Diseases, and its Origin in the Animal Kingdom. By David Sime, M.D. Price 10s. 6d. net.

EYRE AND SPOTTISWOODE, East Harding-street, E.C.

A Guide to the Housing Acts. With Appendices containing the Statutes affecting Housing, 1882-1903. Together with the Forms and Circulars of the Local Government Board. By Arthur P. Poley, Esq., B.A., of the Inner Temple and Midland Circuit, Barrister-at-law. Price 3s. 6d.

F. A. DAVIS COMPANY, 1914-16, Cherry-street, Philadelphia.

A Textbook of Practical Gynecology. For Practitioners and Students. By D. Tod Gilliam, M.D., Professor of Gynecology in Starling Medical College, Columbus, Ohio. Price, extra cloth, $4.00 net; half Russia, $5.00 net.

GREEN, WILLIAM, AND SONS, Edinburgh and London.

Practical Physiological Chemistry. By J. A. Milroy, M.A., M.D., Demonstrator of Physiology, Queen's College, Belfast, and T. H. Milroy, M.D., B.Sc., F.R.S.E., Professor of Physiology, Queen's College, Belfast. Price not stated.

JOHNSON, R. BRIMLEY, 4, Adam-street, Adelphi, W.C.

Consider the Children. A Plea for better Physical and Moral Education. By Honnor Morten, formerly Member of the London School Board, and formerly Health Lecturer under the London County Council. Price 1s. net.

KIMPTON, HENRY, 13, Furnival-street, Holborn, E.C.

A Manual of Obstetrics. By A. F. A. King, A.M., M.D., Professor of Obstetrics and Diseases of Women and Children in the Medical Department of the Columbian University, Washington, D.C., and in the University of Vermont. Ninth edition, revised and enlarged. Price 12s. 6d. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.

CASE, H., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory Act for the Withnell District of the county of Lancaster.

CHEATLE, CYRIL, M.R.C.S., L.R.C.P. Lond., has been appointed Assistant House Accoucheur to King's College Hospital.

CLARKE, W. B., M.R.C.S., L.R.C.P. Lond., has been appointed Junior House Physician to King's College Hospital.

CRIMP, G. LYDSTON, B.A., B.C. Cantab., has been appointed Assistant to the Professor of Pathology at the Medical School, Cairo.

DRAKE, J. A., M.B. Lond., has been appointed House Surgeon to King's College Hospital.

DUNCAN, WILLIAM, M.D., M.R.C.P. Lond., F.R.C.S. Eng., has been appointed Examiner in Midwifery to the University of Glasgow for the ensuing four years.

DUNKERTON, N. E., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to King's College Hospital.

GARBUTT, RICHARD H. O., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer, Public Vaccinator, and Medical Officer of Health for Wolsingham, county Durham.

GASK, G. E., F.R.C.S. Eng., has been appointed Surgical Registrar to St. Bartholomew's Hospital.

KELYNACK, T. N., M.D. Viet., M.R.C.P. Lond., has been appointed Physician to the Mount Vernon Hospital for Consumption and Diseases of the Chest.

LEE, R. H., M.R.C.S., L.R.C.P. Lond., has been appointed Senior House Physician to King's College Hospital.

MAKINS, RICHARD, M.B., Ch.B. Glasg., has been appointed House Surgeon to the Grimsby and District Hospital.

MURRAY, WILLIAM, M.A., M.D. Aberd., has been appointed Surgical Assistant at the Birmingham and Midland Hospital for Skin and Urinary Diseases.

PRICE, FREDERICK W., M.B., M.S. Edin., has been appointed Assistant Physician to the Mount Vernon Hospital for Consumption and Diseases of the Chest.

SMALES, W. L., M.R.C.S., L.R.C.P. Lond., has been appointed House Accoucheur to King's College Hospital.

WEBER, F. PARKES, M.D. Cantab., F.R.C.P. Lond., has been appointed Physician to the Mount Vernon Hospital for Consumption and Diseases of the Chest.

WILLIAMS, E. ULYSSES, M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to King's College Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BOROUGH OF HORNSEY.—Medical Officer of Health and Medical Superintendent of the Borough Isolation Hospital. Salary £500 a year, increasing.

BRIDGWATER INFIRMARY.—House Surgeon. Salary £80 a year, with board and residence.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House Surgeon. Salary £120 per annum, with rooms and attendance.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Resident Medical Officer, unmarried. Salary £80 per annum. Also Clinical Assistant for three months.

DERBYSHIRE ROYAL INFIRMARY.—Senior House Surgeon. Salary £100 per annum, with apartments, board, &c. Also Assistant House Surgeon for six months. Salary at rate of £60 per annum, with apartments, board, &c.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—Eight Clinical Assistants.

GROVE HALL ASYLUM, Bow, E.—Assistant Medical Officer. Salary at rate of £150 a year, with board, apartments, attendance, and washing.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians for six months. Honorarium of £25.

INDIAN MEDICAL SERVICE, India Office, London.—Examination for not less than 20 Commissions in His Majesty's Indian Medical Service.

LIVERPOOL CANCER RESEARCH.—Assistant Director. Salary £200 per annum.

LONDON THROAT HOSPITAL, 204, Great Portland-street, W.—House Surgeon for six months. Honorarium at rate of £50 per annum.

MANCHESTER SOUTHERN HOSPITAL FOR WOMEN AND CHILDREN AND MATERNITY HOSPITAL.—Two Honorary Assistant Medical Officers. Also Anæsthetist. Honorarium £30 per annum.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with board, residence, and washing.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—Surgeon. Also Medical Officer in Charge of Electrical Department. Salary £50 per annum, with lunch. Also Pathologist and Bacteriologist. Salary £50 per annum, with lunch.

NORWICH, HEIGHAM HALL PRIVATE ASYLUM.—Assistant Medical Officer.

POPLAR HOSPITAL FOR ACCIDENTS, Poplar, E.—Assistant House Surgeon for six months, renewable. Salary at rate of £80 per annum, with board and residence.

ROYAL LONDON OPHTHALMIC HOSPITAL (MOORFIELDS EYE HOSPITAL), City-road, E.C.—Assistant Surgeon.

ST. GEORGE, HANOVER-SQUARE, PROVIDENT DISPENSARY, Little Grosvenor-street, W.—Resident Medical Officer. Salary £100, with allowance about £80 and residence.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, Paddington, W.—Lecturer on Physics and Assistant Lecturer on Chemistry. Salary £100 per annum.

ST. PANCRAS WORKHOUSE, Dartmouth Park Hill, London.—Senior and Junior Assistant Resident Medical Officers. Salaries £135 and £75 per annum and allowances.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone-road, N.W.—Clinical Assistants.

SCHOOL BOARD FOR LONDON (EVENING CONTINUATION SCHOOLS).—Lecturers on Hygiene. Fee one guinea per evening of one and a half hours' duration.

SEAMEN'S HOSPITAL SOCIETY ("DREADNOUGHT"), Greenwich, S.E.—Junior Resident Medical Officer. Salary £40 per annum, with board, residence, and washing.

SOUTH DEVON AND EAST CORNWALL HOSPITAL, Plymouth.—House Surgeon. Salary £100, with board, residence, and washing.

WANDSWORTH AND CLAPHAM UNION INFIRMARY, St. John's-hill, near Clapham Junction.—Junior Assistant Medical Officer for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Junior House Surgeon. Salary £50 per annum, with board, lodgings, washing, and attendance.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Pathologist. Salary £200 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Assistant House Physician for six months. Honorarium at rate of £75 per annum, with board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS

MOFFAT.—On Dec. 9th, at Entebbe, Uganda, the wife of R. U. Moffat, C.M.G., M.B. Edin., of a daughter.

SHORTRIDGE.—On Dec. 9th, at Honiton, Devon, the wife of T. W. Shortridge, M.D., of a daughter.

DEATHS.

READ.—On Dec. 12th, at Red Court, Odiham, Winchfield, after operation, Bertram Thomas Read, M.R.C.S., L.R.C.P., aged 42 years, elder son of T. Lawrence Read, of Petersham-terrace, S.W. R.I.P.

TREND.—On the 7th inst. at 1, Grosvenor-square, Southampton, Theophilus William Trend, M.D., M.R.C.P. Edin., aged 65 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

MEDICAL FEES FOR THE EXAMINATION OF CANDIDATES FOR LIFE INSURANCE.

A GENTLEMAN who is a medical referee to the Law Union and Crown Insurance Company, has received the following letter from the general manager of the company:—

[COPY.]

Law Union and Crown Insurance Co., 126, Chancery-lane,
Dec. 4th, '03.

DEAR SIR,—The burden of medical fees upon the smaller class of proposals with which we have to deal is so heavy that while we have no desire to limit unduly the fee payable for the services rendered by our medical officers we are compelled to make arrangements for reports in connexion with proposals for £200 or under at a fee not exceeding 10s. 6d. In the circumstances I consider it only right to ask whether you would be content to receive that fee in such cases, for if not I propose to place them before another doctor who would accept that remuneration. We do not in the least press the acceptance of the smaller fee but are content to leave it to you to accept or decline the examination of proposers for £200 or less offered at the limited remuneration as you may deem best. I should be glad to hear what you have to say on the subject. Yours faithfully,

A. MACKAY, General Manager.

The recipient asks us what we think of the letter, and we are bound to reply that we think very poorly of it. It is not wise, though the unwisdom is probably the directors' rather than the general manager's. If the burden of medical fees is too heavy for the Law Union and Crown Insurance Company that society had better attempt to dispense with the safeguard of properly considered and scientific medical opinions. When they have done so they will be in a position to ascertain the value of medical services. But if medical services are used they should be paid for adequately. We have before indicated that proper inspection of a candidate for life insurance is not a trivial affair. If such inspection is made properly and conscientiously it requires considerable skill and time, and a guinea cannot be called a high fee for the same. Just as much skill and time are required for the examination of candidates proposing to insure for less than £200 as for the examination of those making larger proposals. Possibly the other medical gentleman whom the general manager describes as anxious to secure the place has a good deal of time upon his hands and so thinks that it may be worth his while to take half a guinea for work which other members of his profession feel to be not overpaid at a guinea. We hope that our correspondent will reply as follows to the general manager's request to hear what he has to say on the subject: (1) that he does not propose to work for completely inadequate fees; and (2) that he is surprised to learn that another member of the medical profession is willing to accept such fees.

IODIDE OF POTASSIUM AND SNEEZING.

To the Editors of THE LANCET.

SIRS,—I shall be thankful if through the medium of your journal any brother practitioners can suggest a means to prevent excessive sneezing, attended by severe nasal and conjunctival irritation, caused by this drug in a case under treatment (tertiary syphilis). So susceptible is the patient to its action that a three-grain dose repeated in six hours causes the above symptoms in a violent degree for at least 24 hours and he dreads taking it. Hydrobromic acid has been added to a mixture but without benefit.

I am, Sirs, yours faithfully,

Dec. 7th, 1903. CYCLOPS.

RESUSCITATION OF THE APPARENTLY DROWNED.

To the Editors of THE LANCET.

SIRS,—I am aware that the above is not the title given to the subject discussed by the Royal Medical and Chirurgical Society and reported in THE LANCET of Dec. 12th, p. 1652. I submit that it is the right title, as that given to the paper, "Artificial Respiration in the Human Subject," is much wider. Dr. Bowles's method founded on that of Dr. Marshall Hall was considered to be the best for the purpose of resuscitating the apparently drowned. But I should like to know whether for persons who are breathless from other causes Dr. Silvester's method would not be equally good—as, for example, when it is certain that there can be no water or mucus blocking the lungs, &c. On p. 1654 the President is reported to have said: "The society had now reached a stage when it would be possible to formulate rules for the treatment of the apparently drowned." I have no doubt that before any such rules are formulated the expediency of the society doing such a thing will be fully considered. I may point out that it would crush out all progress or attempt to improve for another half a century. A method approved (or formulated) by the Royal Medical and Chirurgical Society will hold its own, however bad it might be, against all others. Nobody would attempt to

improve it. We know the disastrous effect of the approval of semi-public bodies to any method in the past.

If the society adds a note to the method which it formulates somewhat to the following effect, it might be the means of not crushing out attempts to improve: "Note.—The above method is the best that has been brought to the notice of the Royal Medical and Chirurgical Society up to the present time (here give date), but the society will always be ready to consider any suggestion for its improvement or for another method."

I am, Sirs, yours faithfully,

Dec. 14th, 1903. A. B. C.

BRITISH MEDICAL BENEVOLENT FUND.

THE treasurer (Dr. Samuel West, 15, Wimpole-street, W.) has the pleasure to acknowledge the receipt of the following further donations in response to Sir William Broadbent's appeal:—"A Friend," per R. D. P., £31 10s.; Mr. W. A. Satchell, £11 7s.; and Mr. E. W. Thurston, £1 1s.

THE DETERMINATION OF SEX.

A SERIES of experiments on the determination of the sex of the fœtus has been made by Dr. A. Ambrose and the results are given in a paper which he has forwarded to us but which is too long for insertion in the present crowded state of our columns. At the outset he expresses a certain amount of approval of the theories of Dusing who holds that the determination of sex is influenced, if not controlled, by the relative degree of generative force in the parents. Guided by this principle, Dr. Ambrose devised a method by which he was able "to alter the generative force of the parents," but unfortunately he leaves us totally in the dark as to the details of the method employed. After pointing out that animals which bring forth more than one at a birth are of little use in such inquiries, he continues as follows:—

> The number of experiments is so small that of course no general deduction can be drawn from them, yet they seem to point in so definite a direction that they are worth recording if only to encourage others in the same way, and extending, as they do, over a period of five years any chance element of season or time may be eliminated. It appeared that the way to go to work was to alter the generative force of the parents, and this could be done either by elevating the male and depressing the female or *vice versâ*. In the cases of cattle and horses convenience indicated the treatment of the female; in that of human beings both sexes respond to treatment.
>
> 1. In all over a period of five years 32 cows were treated, 17 with a view to their production of male offspring and 15 for female. Of these, 15 of the 17 had bull calves and two had female calves; of the 15 treated for female offspring all had female calves.
>
> 2. In the same period 10 mares were treated, five for each sex. Of these, the five treated for males all had males and of the five treated for females four had fillies and one a male.
>
> 3. These experiments were so far satisfactory that it was determined to extend the investigation to the human species, and 30 married couples were treated. Of these, there were 23 who desired boys and 18 had them, while ten wished for girls and nine were born to them.

IMPROPER ADVERTISEMENT.

A CORRESPONDENT informs us that he has seen in the windows of a new house in the south-eastern district of London placards to the effect that

> Dr. —— will shortly occupy this house.

He asks us our opinion on the publicity that is thus given to Dr. ——'s residential intentions. In this kind of matter medical men must to a certain extent be a law to themselves. The General Medical Council has more important functions to discharge than to discriminate between the *affiche* which is legitimate and that which is illegitimate. Our correspondent asks us to give our opinion in this particular case, and we think that good taste has been transgressed. It can only matter to Dr. ——'s patients where he lives and he should have been able to notify them of his change of address in the ordinary manner.

A GRIEVANCE OF THE CIVIL SURGEONS WHO SERVED IN SOUTH AFRICA.

To the Editors of THE LANCET.

SIRS,—Will you allow me to protest against the action of those in authority in exacting £1 (instead of 5s.), and causing much trouble and inconvenience (not to say loss), from civil surgeons who risked their lives and gave their services for their country by doing at least 12 months' hard military duty in South Africa, because these civil surgeons were not able or forgot to notify their change of address to P.M.O. Army. This seems a punishment that is hardly merited.

I am Sirs, yours faithfully,

Dec. 8th, 1903. FOUR CLASPS.

THE SHAFTESBURY INDUSTRIAL BETTERMENT LECTURES.

IN THE LANCET of Nov. 28th (p. 1513), in a leading article dealing with the work of the Mansion House Council on the Dwellings of the Poor, a sentence occurs attributing the Shaftesbury lectures to the council. Mr. G. F. Warden, the organising secretary of the Shaftesbury Industrial Betterment Lectures, has written to us stating that this is a mistake and that the Shaftesbury lectures are quite another and distinct organisation.—Our information was derived from the report of the council for the year ending June, 1903, which we have consulted again since receiving Mr. Warden's letter. At the bottom of p. 12 of the report is a paragraph which certainly bears the construction that we put upon it, but which, read in the light of Mr. Warden's letter, assumes another signification. Mr. Warden also demurs to a statement in our leading article that the Mansion House Council on the Dwellings of the Poor was responsible for the meeting of members of Parliament on the housing question last July. On p. 9 of the same report of the council it seems to us that a definite claim is made by the council to have performed the work which we attributed to it. We regret to have accidentally belittled the work of the Shaftesbury Industrial Betterment Lectures with the organisation of which we were not familiar.

THE THRIFT OF THE SALVATION ARMY.

To the Editors of THE LANCET.

SIRS,—I was requested to examine two candidates for service in the Salvation Army and to make a report. For this I was offered the fee of 2s. for each subject and I was told that a medical man had accepted 1s. for the same service. The following is a *résumé* of the form which I had to fill up:—*Family history:* Father, mother, brothers, sisters, living or dead? State of their health and cause of their death? *Present state:* State of ears, eyes, throat, tonsils, and teeth, with number of extractions. Examine and report on heart sounds. Examine chest (shape, capacity, expansion, and sounds as ascertained by percussion and auscultation). Examine chest for disposition to tubercle. Has the patient suffered from fits, rupture, piles, rheumatism, varicose veins, small-pox, and skin diseases? What operations have been performed, what bodily defects are present? In females note uterine functions and walking capacity. To these general remarks were to be added.

I wrote to the adjutant major of the Salvation Army stating that the fees proffered for these minute and searching examinations were inadequate but I have had no reply. I inclose the letter brought by one of the applicants to me. I should like to know if any other medical men have had these forms and if they have accepted such fees.

I am, Sirs, yours truly,

Dec. 9th, 1903. GRIFFIN WILKES, M.R.C.S., L.R.C.P., L.S.A.

[INCLOSURE.]

The Salvation Army,
National Headquarters, 101, Queen Victoria-street,
London, E.C., Nov. 9th, 1903.

DEAR SIR,—This letter will be handed to you by an Applicant for service in the Salvation Army. As a large number of such Applicants, who have been duly passed by Medical Men, have had to return to their homes, after a short trial, as physically unfit, it would be of considerable assistance to us if, in filling up the inclosed Certificate, you would kindly give special attention to the following points:—

The work of the Salvation Army is hard. It differs very much from the ordinary routine of regular Pastors, Lay Evangelists, or Bible Women, and makes heavy demands upon the whole nervous system as well as upon particular organs. Meetings are held every day. Speaking and Singing is constant. Any weakness of the lungs, throat, or heart is especially likely to develop difficulty. Functional irregularities in Female Applicants are of serious importance, and when the menstrual flow is excessive and prolonged, or when it occurs too often, it is desirable that this should be especially mentioned.

Nevertheless, it frequently happens that strong and wiry constitutions stand the work well, even though there be weakness in particular directions. On the other hand, you will place us under obligation if you will kindly point out Applicants who are generally weak, though you may be unable to detect any actual organic disease or deficiency. Women who are unfit to walk reasonable distances should be especially named to us.

You are, of course, aware that open air work, exercise, and regular habits (such as are required from our Officers) are extremely useful to young people, especially to those who may now be working under unfavourable conditions, e.g., in the unhealthy atmosphere of Factories, &c., so that in some cases of present weakness the change to our service would, no doubt, be permanently beneficial. We are most anxious to avoid throwing burdens on any who are not physically strong enough to carry them, and I thus venture to trouble you with these particulars.

I am, dear Sir, yours faithfully,

THOS. B. COOMBS.

*** Mr. Coombs makes out an excellent reason for the close medical examination of candidates for enrolment in the ranks of the Salvation Army but we see no reason why medical men should not be paid for helping the Salvation Army in the selection of recruits.—ED. L.

WE have received a manuscript entitled "Diphtheria: Some Statistics and a Point of Treatment," which bears neither the name nor the address of the author.

Medical Man writes to us inclosing a pamphlet which he says was distributed to young and old at a football match held recently in the south of London, and asks us to judge whether it is a fit and proper publication for the hands of the laity. The pamphlet is an obscene publication termed "Vitality," and is

published by the Health Culture Publishing Company of 22, Budge-row, Cannon-street, London, E.C. Is this a trade name adopted by a person called Jonathan Nicholson, who used to conduct "The Magnetic Nerve Invigorator Company" of the same address, and on whose methods we have had occasion already to comment unfavourably (THE LANCET, Nov. 8th, 1902, p. 1297)? The advertisements in "Vitality" include the business cards of so-called "physical-culture" specialists, the claims to attention of proprietors of bath cabinets, and magnetic (?) apparatuses. The advertisements also recommend a galvanic chain, a soap for sexual weakness, a douche for "colon-flushing," many silly and prurient treatises, the literary works of Jonathan Nicholson, and "three soiled magnetic outfits" (for nervous and sexual ailments). The contents of the magazine are in keeping with the advertisements. Articles on physical culture, written apparently to puff the wares advertised, are stuffed full of preposterous and indecent nonsense. There is no difficulty in guessing our reply to our correspondent's question. The paper is not fit.

Surgeon.—We have been unable to find the name of the makers of the preparation in question. We have seen it advertised in American journals as an analgesic and antipyretic.

Practitioner, in our opinion, is at liberty, if he thinks it advisable, so to style himself on his door-plate.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.) Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.) Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.) Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (22nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.).

WEDNESDAY (23rd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.) National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (24th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (26th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.) Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (22nd).—THERAPEUTICAL SOCIETY (Apothecaries' Hall, Blackfriars).—3.30 P.M. Council Meeting. 4 P.M. Papers:—Dr. W. E. Dixon (Cambridge): The Action of Drugs on the Pulmonary Vessels.—Mr. C. D. Vinrace: A Plea for the More Thorough Study of Therapeutics.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Dec. 17th, 1903

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Dec. 11	29·32	S.W.	0·31	54	48	43	42	44	Cloudy
,, 12	29·53	S.E.	0·07	51	48	38	41	42	Hazy
,, 13	29·37	S.E.	0·18	61	50	42	46	48	Cloudy
,, 14	29·62	S.W	0·01	61	50	45	44	45	Cloudy
,, 15	29·73	S.E.	...	56	46	43	42	44	Cloudy
,, 16	29·61	S.E.	...	58	45	41	40	42	Cloudy
,, 17	29·74	S.E.	...	49	47	41	42	44	Foggy

During the week marked copies of the following newspapers have been received: *Coventry Herald, Birmingham Daily Mail, Reading Mercury, Mining Journal, Local Government Chronicle, Scientific American, Liverpool Courier, Westminster Gazette, Pall Mall Gazette, Daily News, Irish Times, Nottingham Guardian, Aberdeen Free Press, Aberdeen Free Press (Weekly), Boston Independent, Hertfordshire Mercury, Windsor and Eton Express, Standard, South Wales Daily News, Walsall Advertiser, Surrey Advertiser*, &c.

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